

Curriculum Vitae (2021)

Lawrence M. Principe

Office Address: Department of the History of Science and Technology, 301 Gilman Hall, Johns Hopkins University, Baltimore, MD 21218 USA *or* Chemistry Department, Remsen Hall, Johns Hopkins University, Baltimore, MD 21218 USA.

Education:

1996 Ph.D.; History of Science, Johns Hopkins University.
 1988 Ph.D.; Organic Chemistry, Indiana University.
 1983 B.S.; Chemistry, University of Delaware.
 1983 Honors B.A.; Liberal Studies, University of Delaware.

Positions Held:

2011- Director, Singleton Center for the Study of Premodern Europe, JHU
 2006- Drew Professor of the Humanities, Department of the History of Science and
 Technology and Department of Chemistry, Johns Hopkins University.
 2017 Interim Director, Islamic Studies, Johns Hopkins University
 2010 F. C. Donders Professor, Universiteit te Utrecht
 2002-06 Professor, HST and Chemistry, JHU
 2005 Francis Bacon Visiting Professor of History, California Institute of Technology
 1999-02 Associate Professor, HST and Chemistry, JHU
 1997-99 Assistant Professor, HST and Chemistry, JHU
 1996-97 Associate Research Scientist, Chemistry Department, JHU
 1994-97 Senior Lecturer of Chemistry, Chemistry Department, JHU
 1989-94 Lecturer of Chemistry and Laboratory Instructor, Chemistry Department, JHU.
 1988-93 Instructor of Chemistry, School of Continuing Studies, JHU

Publications:**Books:**

The Transmutations of Chymistry: Wilhelm Homberg and the Académie Royale des Sciences (Chicago: University of Chicago Press, 2020).

The Secrets of Alchemy (Chicago: University of Chicago Press, 2013).
 [Chinese ed. (2018); Japanese ed. (2018); Turkish ed. (2020)]

The Scientific Revolution: A Very Short Introduction (Oxford: Oxford University Press, 2011).
 [Spanish ed.: *La revolución científica: Una breve introducción* (Madrid: Alianza, 2013); Swedish ed.: *Den Vetenskapliga Revolutionen* (Stockholm: Fri Tanke, 2013); Chinese ed.: (Yilin Press, 2013); Arabic ed.: *Al-thūrah al-`alamiyyah* (Cairo: Hindawi Publishing, 2014); Japanese ed. (Tokyo: Maruzen, 2014); Korean ed. (Munhakdongne, 2017)].

The Accademia del Cimento and Its European Context, ed. with Marco Beretta and Antonio Clericuzio (Sagamore Beach, MA: Science History Publications, 2009).

New Narratives in Eighteenth-Century Chemistry, ed. (Dordrecht: Springer, 2007).

Chymists and Chymistry: Studies in the History of Alchemy and Early Modern Chemistry, ed. (Sagamore Beach, MA: Science History Publications, 2007).

The Alchemical Laboratory Notebooks and Correspondence of George Starkey. With William R. Newman. (Chicago: University of Chicago Press, 2004).

Alchemy Tried in the Fire: Starkey, Boyle, and the Fate of Helmontian Chymistry. With William R. Newman. (Chicago: University of Chicago Press, 2002).

The Correspondence of Robert Boyle. Eds. Michael Hunter, Lawrence M. Principe, and Antonio Clericuzio, 6 vols. (London: Pickering & Chatto, 2001).

The Aspiring Adept: Robert Boyle and His Alchemical Quest. (Princeton: Princeton University Press, 1998).

Short Books:

Alchemy and Chemistry: Breaking up and Making up (Again and Again). Washington, DC: Dibner Library Publications, Smithsonian Institution, 2017).

Transmutations: Alchemy in Art. With Lloyd DeWitt. (Philadelphia: Chemical Heritage Foundation, 2002).

Media/Public Education:

Science and Religion, (a video course in twelve 30-minute lectures; produced by The Teaching Company, Chantilly, VA 2006).

History of Science: Antiquity to 1700, (a video course in thirty-six 30-minute lectures; produced by The Teaching Company, Chantilly, VA, 2003).

Articles/Book Chapters:

“Circles et intersections: les réseaux des chimistes autour de l’Académie royale des sciences,” *Dix-septième Siècle* 73 (2021):45-57.

“The Changing Visions of Chymistry at the University of Jena: The Two Brendels, Rolfinck, Wedel, and Others,” *Ambix* 68 (2021):180-97.

“The Chymist and the Physician: Rivalry and Conflict at the *Académie Royale des Sciences*,” in *Medicine and Alchemy*, ed. Jennifer Rampling (Cambridge: Cambridge University Press, forthcoming 2021).

“Reworking Recipes and Experiments in the Classroom,” (with Thijs Hagendijk, Peter Heering, and Sven Dupré), pp. 199-224 in *Reconstruction, Replication, and Re-enactment in the Humanities and Social Sciences*, eds. Sven Dupré, Anna Harris, Julia Kursell, Patricia Lulof, and Maartje Stols-Witlox (Amsterdam: Amsterdam University Press, 2020).

“The Development of the Basil Valentine Corpus and Biography: Pseudepigraphic Corpora and Paracelsian Ideas,” *Early Science and Medicine* 24 (2019):549-572.

“Newton’s Alchemy and Chemistry,” pp. 503-513 in *The Reception of Isaac Newton in Europe*, eds. Helmut Pulte and Scott Mandelbrote (London: Bloomsbury Academic, 2019)

“Texts and Practices: The Promises and Problems of Laboratory Replication and the Chemical Explanation of Early Alchemical Processes,” pp. 159-169 in *Greek Alchemy from Late Antiquity to Early Modernity*, ed. Efthymios Nicolaidis (Turnout: Brepols, 2018).

“The Warfare Thesis,” pp. 6-26 in *The Warfare of Science and Religion: The Idea that Wouldn’t Die*, eds. Jeff Hardin, Ronald L. Numbers, Ronald Binzley (Baltimore: JHU Press, 2018)

“Rêves d’or: La surprenante longévité de l’alchimie au coeur de la chimie,” *L’Actualité chimique*, no. 424, (December 2017):68-71.

“Bühnen der Alchemie: Theaterdrama innerhalb und außerhalb des Laboratoriums,” pp. 228-249 in *Spuren der Avantgarde: Theatrum alchemicum, frühe Neuzeit und Moderne im Kulturvergleich*, eds. Helmar Schramm, Michael Lorber, and Jan Lazardzig (Berlin: De Gruyter, 2017).

“Chymical Exotica in the Seventeenth Century, or, How to Make the Bologna Stone,” *Ambix* 63 (2016):118-44.

“From the Library to the Laboratory and Back Again: Experiment as a Tool for Historians of Science,” (with Hjalmar Fors and H. Otto Sibum), *Ambix* 63 (2016):85-97 [Guest edited issue]

“Sir Kenelm Digby et son cercle alchimique parisien des années 1650,” *Textes et Travaux de Chrysopoeia* 16 (2015):155-182.

“Scientism and the Religion of Science,” pp. 41-61 in *Scientism: The New Orthodoxy*, eds. Richard N. Williams and Daniel N. Robinson (London: Bloomsbury, 2015).

“Myth 4: That alchemy and astrology were superstitious pursuits that did not contribute to science and scientific understanding,” in *Newton’s Apple and Other Myths about Science*, eds. Ron Numbers and Kostas Kompourakis (Cambridge, MA: Harvard University Press, 2015).

“The End of Alchemy? The Repudiation and Persistence of Chrysopoeia at the Académie Royale des Sciences in the Eighteenth Century,” *Osiris* 29 (2014): 96-116.

“Goldsmiths and Chymists: The Activity of Artisans in Alchemical Circles,” pp. 157-179 in *Laboratories of Art: Alchemy and Art Technology from Antiquity to the Eighteenth Century*, ed. Sven Dupré, (Dordrecht: Springer, 2014).

“Eine praktische Wissenschaft: Die Geschichte der Alchemie,” and “Orte des Wunders und des Verderbens: Alchemielaboratorien in Darstellungen der frühen Neuzeit” pp. 18-35 and 58-81 in *Kunst und Alchemie: Das Geheimnis der Verwandlung*, eds. Dedo von Kerssenbrock-Krosigk, Beat Wismer, and Sven Dupré (Hirmer: Munich, 2014).

“A Fresh Look at Alchemy,” *Chemistry World*, 21 June 2013, 50-53.

“Sir Kenelm Digby and His Alchemical Circle in 1650s Paris: Newly Discovered Manuscripts,” *Ambix* 60 (2013):3-24.

“The Secrets of Alchemy,” *Chemical Heritage*, Fall 2012/Winter 2013, 27-31

“John Locke and the Case of Anthony Ashley Cooper,” with Peter Anstey, *Early Science and Medicine* 16 (2011):379-503.

“Alchemy Restored,” *Isis* 102 (2011):305-312.

“In Retrospect: *The Sceptical Chymist*,” *Nature* 469, (6 January 2011): 30-31.

“Liens et influences chimiques entre Robert Boyle et la France,” pp. 71-89 in *La philosophie naturelle de Robert Boyle*, eds. Miriam Dennehy and Charles Ramond, (Paris: Vrin, 2009).

“Allen G. Debus (1926-2009): An Appreciation,” *Ambix* 56, (2009):201.

“Myth 11: ‘That Catholics did not Contribute to the Scientific Revolution’” pp. 99-106 in *Galileo Goes to Jail and Other Myths about Science and Religion*, ed. Ronald L. Numbers (Cambridge, MA: Harvard University Press, 2009)

“Transmuting Chymistry into Chemistry: Eighteenth-Century Chrysopoeia and its Repudiation,” pp. 21-34 in *Neighbours and Territories: The Evolving Identity of Chemistry*, eds. José Ramón Bertomeu-Sánchez, Duncan Thorburn Burns, Brigitte Van Tiggelen (Louvain-la-Neuve: Mémosciences, 2008).

“Wilhelm Homberg et la chimie de la lumière,” *Methodos: Savoirs et textes* 8, (2008); <http://methodos.revues.org/>

“Revealing Analogies: The Descriptive and Deceptive Roles of Sexuality and Gender in Latin Alchemy,” pp. 209-229 in *Hidden Intercourse: Eros and Sexuality in Western Esotericism*, eds. Wouter Hanegraaff and Jeffrey J. Kripal, (Leiden: Brill, 2008).

“Transmuting History,” *Isis* 98 (2007):779-787.

“A Revolution Nobody Noticed? Changes in Early Eighteenth Century Chymistry,” pp. 1-22 in *New Narratives in Eighteenth-Century Chemistry*, ed. Lawrence M. Principe (Dordrecht: Springer, 2007)

“A New History of Chemistry Library at the Chemical Heritage Foundation,” *Ambix* 53, (2006):77-82.

“Alchemy and Its Images in the Eddleman and Fisher Collections at the Chemical Heritage Foundation.” With Lloyd DeWitt. Pp. 221-47, in *Art and Alchemy*, ed. Jacob Wamberg (Copenhagen: Museum Tusculum, 2005).

“Evidence for Transmutation in Seventeenth Century Alchemy.” Pp. 151-64, in *Scientific Evidence: Philosophical Theories and Applications*, ed. Peter Achinstein (Baltimore: Johns Hopkins Press, 2005).

“Vincenzo Dandolo, Marco Carburì, and the Battle over Lavoisier’s Chemistry in Italy: A Rare Pamphlet,” *Chemical Heritage* 23 (2005).

“Alchemy and the Changing Significance of Analysis.” With William R. Newman. Pp. 73-89 in *Wrong for the Right Reasons*, eds. Jed. Z. Buchwald and Allan Franklin, (Dordrecht: Springer, 2005).

“Reflections on Newton’s Alchemy in Light of the New Historiography of Alchemy.” Pp. 205-19 in *Newton and Newtonianism: New Studies*, eds. James E. Force and Sarah Hutton, (Dordrecht: Kluwer, 2004).

"Lost Newton Manuscript Recovered at CHF," *Chemical Heritage* 22 (2004):6-8.

"Georges Pierre des Clozets, Robert Boyle, the Alchemical Patriarch of Antioch, and the Reunion of Christendom," *Early Science and Medicine* 9, (2004):307-20.

"The Lost Papers of Robert Boyle." With Michael Hunter. *Annals of Science* 60 (2003), 269-311.

"The Chymical Laboratory Notebooks of George Starkey." With William R. Newman. Pp. 25-41 in *Reworking the Bench: Research Notebooks in the History of Science*, eds. Fredrick L. Holmes, Jürgen Renn, and Hans-Jörg Rheinburger, (Dordrecht: Kluwer, 2003).

"Wilhelm Homberg: Chymical Corpuscularianism and Chrysopoeia in the Early Eighteenth Century." Pp. 535-56 in: *Late Medieval and Early Modern Corpuscular Matter Theories*, eds. C. Luthy, J. E. Murdoch, and W. R. Newman (Leiden: Brill, 2001).

"Some Problems in the Historiography of Alchemy." With William R. Newman. Pp. 385-431 in: *Secrets of Nature: Astrology and Alchemy in Early Modern Europe*, ed. William Newman and Anthony Grafton, (Cambridge, MA: MIT Press, 2001).

"D. G. Morhof's Analysis and Defence of Transmutational Alchemy." Pp. 138-153 in *Mapping the World of Learning: The Polyhistor of Daniel Georg Morhof*, Wolfenbüttler Forschungen 91, (Harrassowitz: Wiesbaden, 2000).

"Apparatus and Reproducibility in Alchemy." Pp. 55-74 in *Instruments and Experimentation in the History of Chemistry*, ed. Frederic L. Holmes and Trevor Levere, (Cambridge, MA: MIT Press, 2000).

"The Alchemies of Robert Boyle and Isaac Newton: Alternate Approaches and Divergent Deployments." Pp. 201-220 in *Rethinking the Scientific Revolution*, ed. Margaret J. Osler, (Cambridge: Cambridge U. Press, 2000).

"Alchemy vs. Chemistry: The Etymological Origins of a Historiographic Mistake." With William R. Newman. *Early Science and Medicine*, 1998, 3:32-65.

"Diversity in Alchemy: The Case of Gaston 'Claveus' DuClo, a Scholastic Mercurialist Chrysopoeian," pp. 181-200 in *Reading the Book of Nature: The Other Side of the Scientific Revolution*, ed. Allen G. Debus and Michael Walton (Kirksville, MO: Sixteenth Century Press, 1998).

"Virtuous Romance and Romantic Virtuoso: The Shaping of Robert Boyle's Literary Style." *Journal of the History of Ideas*, 1995, 56:377-397.

"Newly-Discovered Boyle Documents in the Royal Society Archive: Alchemical Tracts and his Student Notebook." *Notes and Records of the Royal Society*, 1995, 49:57-70.

"Style and Thought of the Early Boyle: Discovery of the 1648 Manuscript of Seraphic Love." *Isis*, 1994, 85:247-260.

"Robert Boyle's Alchemical Pursuits," pp. 91-105 in *Robert Boyle Reconsidered*, ed. Michael Hunter, (Cambridge: Cambridge U. Press, 1994).

"Robert Boyle's Alchemical Secrecy: Codes, Ciphers, and Concealments." *Ambix*, 1992, 39:63-74.

"The Gold Process: Directions in the Study of Robert Boyle's Alchemy." In *Alchemy Revisited*, ed. Z. R. W. M. van Martels, (Leiden: E. J. Brill, 1990), 200-5.

"Stereospecific Dicobalt Octacarbonyl Mediated Enyne Cyclization for the Synthesis of Methyl Deoxynorpentanolactone H." With Philip Magnus and Martin J. Slater, *Journal of Organic Chemistry*, 54, 5148, (1989).

"Jacob Boehme's Divine Substance Salitter--Its Nature, Origin, and Relationship to Seventeenth-Century Nitre Theories." With Charles Andrew Weeks. *British Journal of the History of Science*, 1989, 22:53-61.

"In Defense of Alchemy." *Beckman Center Newsletter*, Summer 1989, 6:5-7.

"Organometallic Chemistry can Simplify the Synthesis of Important Biologically Active Natural Products." With D. Becker, P. Carter, J. Elliott, R. Lewis, P. Magnus, and M. Slater. *Philosophical Transactions of the Royal Society, A*, 326, 641, (1988).

"Stereospecific Dicobaltoctacarbonyl Mediated Enyne Cyclization for the Synthesis of the Cytotoxic Sesquiterpene (+/-)-Quadron." With Philip Magnus and Martin J. Slater. *Journal of Organic Chemistry*, 52, 1483, (1987).

"Chemical Translation and the Role of Impurities in Alchemy: Examples from Basil Valentine's *Triumph-Wagen*." *Ambix*, 1987, 34:21-30.

"Origins of the 1,2- and 1,3-Stereoselectivity in Dicobaltoctacarbonyl Alkene-Alkyne Cyclizations for the Synthesis of Substituted Bicyclo[3.3.0]octenones." With Philip Magnus. *Tetrahedron Letters*, 4851, (1985).

"A Second Look at Alchemy." *Enquiry: Research Journal of the University of Delaware*, Fall 1982, 3:12-15.

Invited contributions to: *Alchemie: Lexikon einer hermetischen Wissenschaft*, ed. Claus Priesner and Karin Figala, (Munich: Beck Verlag, 1998) (21 articles), *New Dictionary of National Biography* (7 articles), *Encyclopedia of the Scientific Revolution*, ed. Wilbur Appelbaum (2 articles), *Dictionary of Gnosis and Western Esotericism*, ed. Wouter Hanegraaff, Antoine Faivre, and Roelof van den Broek (Leiden, Brill: 2005) (3 articles), *New Dictionary of Scientific Biography*, *Encyclopedia Britannica*, *Dictionary of Medical Biography*, *Dictionary of Seventeenth-Century French Philosophers*, *Encyclopedia of Science and Religion*, ed. Gary Ferngren (New York: Garland, 1999), and *Cambridge Handbook of Mysticism and Western Esotericism* (2016).

Book reviews in: *Isis*, *Ambix*, *Bulletin of the History of Medicine*, *British Journal of the History of Science*, *Archives internationales d'histoire des sciences*, *Bulletin of the History of Chemistry*, *Early Science and Medicine*, *Annals of Science*, *The Scriblerian*, *Journal of Interdisciplinary Studies*, and *Journal of Modern History*.

Presented Papers (Selected):

“When Analysis Fails: Strategies and Experiments for Identifying the Chymical Principles at the Early Académie Royale des Sciences,” Mellon Sawyer Seminar, Bloomington, IN [Zoom], 29 September - 3 October 2021.

“Scientific Innovation and Franciscan Spirituality in the Middle Ages,” Prize Lecture, Society of Catholic Scientists, Washington, DC, 5 June 2021

“John of Rupescissa's *Liber lucis*: Alchemical Practices in Both Laboratory and Text,” Medieval Academy of America Conference, Bloomington, IN [Zoom], 16 April 2021.

“The ‘Chemical Revolution’ of Lavoisier and its Medieval Origins,” Princeton University, Davis Seminar [Zoom], 12 February 2021.

“Chemical Experiment as a Philological Tool for Understanding Ancient Texts,” Archeobiocenter, Ludwig-Maximilian-Universität, Munich, 10 December 2020

“*Mira Ingenia*: Chymical Processes, Religious Metaphor, and the Alchemical Restoration of Christendom?” University of Pennsylvania, Dept. of Italian Studies, 13 February 2020.

“Poisons, Medicines, and Transmutations,” Il Veleno: Saperi, Usi e Pratiche, Università di Trento, 11 December 2019.

“Corrupt Texts, False Authors, Obscure Practices and Inexplicable Results: The Problems of Understanding Alchemy,” Max-Planck-Institut für Naturwissenschaftsgeschichte, Berlin, 3 December 2019.

“The Changing Visions of Chymistry at Seventeenth-Century Jena: Brendel, Rolfinck, Wedel, and Others,” Alchimie und Universität, Herzog August Bibliothek, Wolfenbüttel, Germany, 21 November 2019.

“*La Bastille alchimique*: Suspicion and Optimism about Transmutation in Early 18th-Century France,” History of Science Society Meeting, Seattle, WA 3 November 2018.

“Alchemy at the Cutting-edge,” Institute for Advanced Study, University of Warwick, UK, 9 May 2018.

“Wilhelm Homberg’s Laboratories and Instruments: Doing Chymistry in Early Modern France,” History of Science, Technology, and Medicine Colloquium, University of Minnesota, Minneapolis MN, 13 April 2018.

“Holy Alchemy: Religious Metaphor, Chymical Processes, and the Alchemical Defense of Christendom,” 2018 Langen Lecture in Christianity and Culture, St. Michael’s College, University of Toronto, 12 April 2018

“Hopes and Fears: The Promises and Perils of Alchemy in Early Modern France,” Humanities Research Center, Rice University, Houston, TX, 22 February 2018.

“The Most Magnificent Laboratory Chemistry has Ever Had’: The Chymical Laboratory of the Palais Royal,” Plenary lecture at SHAC Postgraduate Workshop, Chemical Heritage Foundation, Philadelphia, 1 December 2017.

“The Persistent Luminescence of the Bologna Stone: Luminous Secrets and Laboratory Practices,” Chemistry Department, University of Florida, Gainesville, FL, 28 November 2017.

“Catching the Black Dragon: How Experimental Reproductions can Explain Alchemical Texts and Reveal their Practices,” lecture and experimental demonstration at ARTECHNE conference, Leiden, The Netherlands, 13 June 2017.

“Origins and Context of the Warfare Thesis” and “Present-day Scientism as the 20th-Century Evolution of the Warfare Thesis,” Plenary lectures for the 37th Cosmos and Creation Conference, Loyola University, Baltimore, MD, 9-10 June 2017.

“Evolution and the Origin of Life: Must Science and Religion Disagree?” Annual Bullard-Templeton Lecture, Methodist University, Fayetteville, NC, 13 March 2017.

“The Afterlife of Transmutational Alchemy,” Emory University, Atlanta, GA, 15 February 2017.

“Locality, Materials, and Reproductions,” Journée d’étude: *L’Atelier de la Nature*, Centre Alexandre Koyré, Paris, France, 10 November 2016.

“Rêves d’or: La surprenante longévité de l’alchimie au coeur de la chimie,” La Maison de la Chimie, Paris, France, 9 November 2016. [Address upon reception of the Prix Franklin-Lavoisier.]

“Paracelsian and pseudo-Paracelsian Ideas and the Development of the Basil Valentine Corpus,” Pseudo-Paracelsus Workshop, Villa Vigoni, Menaggio, Italy, 23-25 July 2016.

“Experience and Experiment: The Uses of Practical Experiment for Historical Understanding,” Invited Plenary Lecture, Three Societies Meeting, Edmonton, Canada, 23 June 2016

“Texts and Practices: The Promises and Problems of Laboratory Replication and Chemical Explanation of Alchemical Processes,” National Hellenic Research Foundation, Athens, Greece, 25-27 June 2015.

“Chemical Analysis and Replication of Medieval and Early Modern Alchemical Experiments,” Keynote Address, Swedish Chemical Society, Visby, Sweden, 16 June 2015.

“The Science-Religion Debate: Past, Present, and Future, Myths and Realities,” Annual Bullard-Templeton Lecture, Methodist University, Fayetteville, NC, 20 April 2015.

“Scientism and the Warfare of Science and Religion,” Notre Dame University, South Bend, IN, 26 March 2015.

“The Fates and Futures of Alchemy and Medieval Natural Philosophy,” Plenary Lecture for the “Science Before Science” Symposium, Bowdoin College, ME, 26 February 2015.

“Secret Materials and Chymical Exotica, or, How to Make the Bologna Stone,” Columbia University, NY, 19 February 2015

“Alchemy on the Cutting Edge: Theoretical Innovations and the Pursuit of Transmutation,” **Dibner Distinguished Lecture**, Smithsonian Institution, Washington, DC, 11 December 2014.

“Les transmutations d’un chimiste: Fontenelle et son *Éloge de M. Homberg*,” École normale supérieure Lyon, France, 15 October 2014.

“The Stubborn Myth of the Warfare of Science and Religion,” Robert Boyle Summer School, Lismore, Ireland, 3-6 July 2014.

“Alchemie und die Künste,” Museum Kunstpalast, Düsseldorf, Germany, 13 June 2014.

“Resituating and Interpreting Alchemical Images,” Renaissance Society of America, NYC, 27-29 March 2014.

“Trading Secrets, Travelling for Knowledge: How Wilhelm Homberg (1653-1715) Became a Chymist,” Workshop: Objects, Commodities and Knowledge on the Move, University of Basel, Switzerland, 4-5 October 2013.

“Seeking True Principles: The Evolution of Wilhelm Homberg's *Essais de chimie*,” American Chemical Society Convention, Indianapolis, IN, 8 September 2013

“How to Make the Bologna Stone,” Keynote Address, Sixth International Congress for the History of Chemistry, Uppsala, Sweden, 22-24 August 2013.

“Alchemy’s Secrets Revealed,” Richmond Lecture, Williams College, Williamstown, MA, 7 April 2013.

“Goldsmiths and Chymists: The Activity of Artisans Within Alchemical Circles,” Conference: Laboratories of Art, Max-Planck Institut für Wissenschaftsgeschichte, Berlin, Germany, 7-8 March 2013.

“Scientism and the Religion of Science,” Wheatley Symposium, Brigham Young University, Provo, UT, 21 March 2013.

“The Distiller- or Alchimiekamer of Emmanuel Ximenes,” Reading the Inventory, Antwerp, Belgium, 28-30 November 2012.

“Continental Responses to Newtonian Chemistry, Real and Imagined,” The Reception of Newton Conference, Dublin, Ireland, 12-13 July 2012.

"Alchemy's Origins in Late Antiquity: Philosophical Crafts and Crafty Philosophers," Getty Villa, Malibu, CA, 13 October 2011.

“The Chymist and the Physician: Rivalry and Conflict at the Académie Royale des Sciences," Alchemy and Medicine from Antiquity to the Enlightenment, Cambridge University, 22-24 September 2011.

"The Persistence of Chrysopoeia: Public Repudiation and Private Practice in Eighteenth-Century France," Richard S. Westfall Memorial Lecture, Indiana University, Bloomington, 15 April 2011.

“So What Happened to Alchemy?” Academia Sinica, Taipei, Taiwan, 29 March 2011.

“Revealing the Secrets of Alchemy” **George Sarton Memorial Lecture**, American Academy of Arts and Sciences Annual Meeting, Washington, DC, 17-21 February 2011.

“Alchemy: Between Science and Religion?,” ESSWE Alchemy Thesis Workshop, University of Amsterdam, Amsterdam, The Netherlands, 24 June 2010.

“Turning Experiments into Theories: The Evolution of Wilhelm Homberg’s *Essais de chimie*,” Université de Lille III, France, 9 June 2010.”

“Uncovering the Secrets of Alchemy,” Inaugural Oration, Universiteit te Utrecht, Utrecht, The Netherlands, 1 June 2010.

“Von Java nach Paris: Die abenteuerliche Karriere des Chemikers und Alchemisten Wilhelm Homberg (1653-1715),” Deutsche Akademie der Naturforscher Leopoldina, Halle, 11 May 2010.

“La chimie helmontienne à l’Académie Royale des Sciences,” Université de Lille III, 27 April 2010.

“The Role of Religion in the Emergence of Modern Science” and “Natural Theology: A Historical Perspective,” Faraday Centre, St. Edmund’s College, Cambridge University, 13-14 July 2009

“Do It Right or Do it Now: Philosophical vs. Pragmatic Agendas for Chymistry at the Académie Royale des Sciences,” CHYMIA: Science and Nature in Early Modern Europe (1450-1750); El Escorial, Spain; 7-12 September 2008.

“The Paris Académie Royale des Sciences and Italian Scientific Societies,” The Accademia del Cimento in European Context (1657-2007), Florence, Italy, 14-15 December 2007.

“The Stages of Alchemy: Theatrical Drama in and out of the Laboratory,” Spuren der Avantgarde: Theatrum Alchemicum, Berlin, 1-3 November 2007.

“Transmuting Chymistry into Chemistry: Eighteenth-Century Chrysopoeia and its Repudiation,” Keynote Address, International Conference on the History of Chemistry, Leuven, Belgium, 28-31 August 2007

“Science, Art, and the Natural World: Visions of Alchemy in Seventeenth-Century Society,” Virginia Commonwealth University, Richmond, VA, 23 February 2007.

“A Revolution Nobody Noticed?: Chemistry in the Early Eighteenth Century,” Keynote Francis Bacon Address, CalTech, Pasadena, CA, 22 April 2005.

“The Role of Sexuality and Gender in Latin Alchemy,” Esoteric Renaissance Conference, San Francisco, CA, 3-7 April 2005.

“La France dans la chimie de Robert Boyle, et la chimie de Robert Boyle en France.” Colloque international: “La philosophie naturelle de Robert Boyle,” Université Michel de Montaigne, Bordeaux, France, 10-12 March 2005.

“La chimie de la lumière,” Université de Lille III, Lille, France, 7 March 2005.

“Recreating Alchemical Experiments” Renaissance Workshop, Princeton University, Princeton, NJ, 10-11 February 2005.

“Wilhelm Homberg’s *Wanderjahre*: Intellectual Formation and Transnational Networks,” Science in Europe Conference, Maastricht, Netherlands, 4-6 November 2004.

“The Role and Place of Alchemy in Early Modern Culture” University of Amsterdam, Netherlands, 2 November 2004.

“Wilhelm Homberg and the Chymistry of Light,” CalTech, 22 February 2004.

“Révélations et recherches: L'autorité divine dans le laboratoire alchimique,” Université de Paris X, 16 December 2002.

“Taking Alchemy Seriously,” Scholes Lecture, Alfred University, 22 April 2002

“Alchemy and its Images in the Eddleman and Fisher Collections,” Art and Alchemy Conference, University of Aarhus, 6-9 December 2001.

“The Supernatural School of Alchemy,” Renaissance Society of America Conference, Chicago, IL, 29-31 March 2001.

“Reassessing Newton in the Light of the New Historiography of Alchemy,” Newton 2000 Conference, William Andrews Clark Library, Los Angeles, CA, 20-21 October 2000.

“Grains and Chaff: Winnowing the Alchemical Papers for Newtonian Content,” Newton Manuscripts Project Workshop, Cambridge, England, 9-10 September 2000.

“The Notebooks of George Starkey: Experiment in Chymistry” History of Science Society Annual Meeting, Pittsburgh, PA; 4-7 November 1999.

“Die Bedeutung der Alchemie für die Physik Isaac Newtons,” 333 Jahre Gravitation, Weil-der-Stadt, Germany, 12 August 1999.

“‘Tried in the Fire’: Experimental Practice in Early Modern Chymistry,” Journée d'étude: La Philosophie Expérimentelle en France et en Angleterre, Nanterre (Paris X), France, 7 May 1999.

“Theological Correctives to Seventeenth-Century Chymistry,” Pascal Centre Conference “Science in Theistic Contexts,” Ancaster, Ontario, 21-25 July 1998.

"Chacun à son goût: Theory and Practice in Early Modern Chymistry," Chimie et chimistes en quête d'identité, Louvain-la-Neuve, Belgium, 22-23 November 1997.

"Daniel Georg Morhof and Seventeenth-Century Alchemy," XXth Congrès International d'Histoire des Sciences, July 1997, Liège, Belgium.

"The Diversity of Alchemical Schools: The Case of Gasto Claveus," Sixteenth Century Studies Conference, St. Louis, 24-27 October 1996

"Robert Boyle, Religion, and the Limits of Mechanism," British Studies Conference, Chicago, 18-20 October 1996

"The Persistence of Alchemical Theories and Goals at the Académie Royale des Sciences," Foundation for Intellectual History's Workshop on Corpuscularianism, St. Andrews, Scotland, 4-15 August 1996.

"Apparatus and Reproducibility in Alchemy," Dibner Institute Workshop, 11-13 April 1996, Cambridge, MA.

"Skeptical of the Sceptical Chymist: The Development of Boyle's Alchemical Views" 1994 History of Science Convention, New Orleans, LA. (Also Session Organizer)

"Boyle's Alchemical Writings: Anonymity, Uncertainty, and Oblivion," 1993 History of Science Convention, Santa Fe, NM.

"The Romantic Alchemist: Two Important Influences on the Boyle's Style and Language," Mark M. Horblit Colloquium in the History of Science, Harvard University, 12 October 1993.

"Alchemy in Defense of Religion," XIXth Congrès International d'Histoire des Sciences, August 1993, Zaragoza, Spain.

"Far-Flying Mercury: Alchemical Communication and Laboratory Practice in Boyle, Locke, and Newton," British-North American Joint Meeting, July 1992, Toronto, Canada.

"Robert Boyle's Dialogue on Transmutation," 1991 History of Science Convention, Madison, WI.

"Evaluating Research: An Historian's Perspective," 1991 National Council of University Research Administrators Meeting, Alexandria, VA.

Notices:

New York Times, 10 April 1990, "In Alchemist's Notes, Clues to Modern Chemistry."

Today's Chemist, 2, May/June 1993, pp. 57-8, "Profiles in Chemistry: Breaking the Alchemy Code."

News from the Burndy Library, 3, Fall 1996, pp. 8-10, "Understanding Alchemical Imagery."

Baltimore Sun, 9 October 1998, p. C-1.

Arts and Sciences Update, JHU, 1, January 1999, p. 11.

Chemical and Engineering News, 10 May 2004, pp. 49-50.

Baltimore Sun, 22 July 2006, p. 1.

New York Times, 1 August 2006, p. D1

France-Amérique, 5 August 2006, p. 9.
Boston Globe, 15 March 2009.
Natuurwetenschap & Techniek, October 2010, 66-69.
NRC Handelsblad, 6 June 2010, 11
The Economist, 24 February 2011.
Science, 20 May 2011, pp. 914-15
Chemical and Engineering News, 89, 29 August 2011, p. 40.
Arts and Sciences Magazine, Spring 2012, 34-35.
Smithsonian Magazine, February 2014, 13-14.
Washington Post, 30 January 2018.

Honors, Awards, and Fellowships:

2020 History of Chemistry (HIST) Award, American Chemical Society
 2020 St. Albert the Great Award for Science and Religion
 2019 Herzog August Bibliothek Wolfenbüttel, Senior Visiting Fellowship
 2018 International Visiting Fellow, Institute for Advanced Study, University of Warwick
 2016 Prix Franklin-Lavoisier, Fondation de la Maison de la Chimie (Paris) and Chemical Heritage Foundation
 2016 Rausing Fellowship, Uppsala University, Sweden
 2015-16 John Simon Guggenheim Memorial Fellowship
 2015 Elected *Membre Effectif* (Fellow) of the Académie internationale d'histoire des sciences
 2014 Dibner Lecturer, Smithsonian Institution
 2014 Alumni Achievement Award, University of Delaware
 2011 George Sarton Memorial Lecturer, American Academy for the Advancement of Science
 2007 George Owen Teaching Award, JHU
 2005 Pfizer Prize, History of Science Society
 2004 Francis Bacon Award for the History and Philosophy of Science
 2001 Othmer Fellowship, Chemical Heritage Foundation
 2001 Center for Theology and Natural Sciences Course Development Award
 1999 Dibner Institute Senior Fellowship
 1999 Templeton Foundation Award for Courses in Science and Religion
 1998 Carnegie Foundation Maryland Professor of the Year
 1998 George Owen Teaching Award, JHU
 1996 Excellence in Teaching Award, JHU
 1994 Distinguished Faculty Award, JHU
 1988-89 George Owen Fellow of Humanities, JHU
 1986-87 American Chemical Society Organic Division Graduate Fellow
 1983-86 National Science Foundation Graduate Fellow
 1983-81 American Institute of Chemists Award; American Microchemical Society Award; Eastman Kodak Chemistry Scholarship; Rodney H. Sharp Scholarship; First Prize, Phi Kappa Phi Research Essay Competition; Federal Republic of Germany Foreign Embassy Awards for German Language and Literature; Italo-American Foundation Award for Italian Studies; Italian Consulate General's Award.

External Grants:

“Sources of Alchemy,” Society for the History of Alchemy and Chemistry, £800, 2015

“The Supernova of 1604 as a Source of Scientific Debate,” National Science Foundation, 2008-2010, \$84,000.

“International Conference on Early Chemistry,” National Science Foundation, 2005-2006; \$10,000.

"The Formation of Chemists and Chemistry," National Science Foundation CAREER Grant, 2000-2006; \$273,348.

Conferences and Workshops Organized:

“Muslims, Christians, and Jews in the Mediterranean World: Art and Architecture, Science and Medicine,” 9 March 2018, Johns Hopkins University, Baltimore.

“Greek, Coptic, Syriac and Arabic Alchemy,” 22-26 August 2015, Assisi, Italy.

“Early Sources of Alchemy,” 7-10 May 2014, Johns Hopkins University, Baltimore.

“L’Accademia del Cimento nel Contesto Europeo,” 14-15 December 2007, Istituto e Museo di Storia della Scienza, Florence, Italy.

International Conference on Alchemy and Chymistry, 19-22 July 2006, Chemical Heritage Foundation, Philadelphia, PA; ca. 120 participants.

Francis Bacon Workshop on 18th Century Chemistry, 21-23 April 2005, CalTech, Pasadena, CA.

Editorships and Board Memberships:

Co-Editor of the series *Sources of Chemistry* (with Jennifer Rampling)

Co-Editor of a critical edition of John Locke’s natural philosophical writings (with Peter Anstey)

Editorial Boards: *Archimedes* (currently), *Ambix* (currently), *Notes and Records of the Royal Society of London* (currently), *Nuncius* (2012-16), *Journal of Religion in Europe* (2008-2016), *Isis* (1999-2002).

Member of Council of the History of Science Society (2015-2018)

Council Member for the Society for the History of Alchemy and Chemistry (2010-)

Consulting Editor for the *Works of Robert Boyle* Project, Michael Hunter and Edward B. Davis, eds. (1995-2000)