

MARK L. GREEN

Work: Department of Mathematics, University of California, Los Angeles, Box 951555, Los Angeles, CA 90095-1555

e-mail: mlg@ipam.ucla.edu

Education

Ph.D. (Mathematics) Princeton University, 1972

M.A. (Mathematics) Princeton University, 1970

B.S. (Mathematics) Massachusetts Institute of Technology, 1968

Research and Professional Experience

Director, Inst. for Pure & Applied Math., 2001-2008

Co-Director, Inst. for Pure & Applied Math., 1999-2001

Distinguished Research Professor, 2011-present

Professor Above Scale, 2000-2011

Professor, UCLA Department of Mathematics, 1982-present

Associate Professor, UCLA Department of Mathematics, 1977-82

Assistant Professor, UCLA Department of Mathematics, 1974-77

Lecturer, Massachusetts Institute of Technology, 1974-1975

Lecturer, University of California, Berkeley, 1972-1974

Honors and Fellowships

Chern Medal Lecture, International Congress of Mathematicians, Seoul, 2014

Congressional Lecture, American Mathematical Society, 2013

Fellow of the American Mathematical Society, elected 2012

Fellow of the American Association for the Advancement of Science, elected 2011

Fellow of the American Academy of Arts and Sciences, elected 2010

Plenary Speaker, Hodge Centennial, Edinburgh, 2003

Plenary Speaker, Abel Bicentennial, Oslo, 2002

AMS Invited Address, joint meeting AMS-MAA, New Orleans, 2001

Invited talk (45 min.), International Congress of Mathematicians, Berlin, Germany, 1998

CIME Lecture Series (8 lectures), Torino, Italy, 1993

Invited speaker, Taniguchi Seminar, Katada, Japan, 1978

Alfred P. Sloan Fellow, 1976-80

Procter Fellow 1971-72

Woodrow Wilson Fellowship Designate 1968-72

NSF Graduate Fellowship 1968-72

Synergistic Activities

- Chair, NAS Board on Mathematical Sciences and Analytics
- Director, Institute for Pure and Applied Mathematics
- Board of Governors, Transforming Postsecondary Education in Mathematics
- Vice-Chair, National Academies Study “The Mathematical Sciences in 2025”

- Chair, Committee of Visitors, Division of Mathematical Sciences, National Science Foundation, 2013
- Trustee, American Mathematical Society
- US Delegation, International Mathematical Union, Bangalore
- Association for Women in Mathematics, Advisory Committee
- International Advisory Panel, Canadian Long Range Planning Study for Mathematics
- Mathematical Advisory Committee for exhibit “Man Ray: Human Equations” at the Phillips Collection
- Created, with Jacob Foster, a new graduate course for UCLA Sociology, “Machine Learning for Social Sciences”
- Banff International Research Station, Scientific Advisory Board
- Centre de Recherches Mathematiques, Montreal, Science Advisory Board
- American Council on Education/CBMS panel to review National Common Core Standards for Mathematics
- Simons Foundation panel on developing a framework for foundation programs in Mathematics and Physical Sciences
- Mathematics department reviews at Northwestern University, University of Utah, University of North Carolina, Texas A&M University, Georgia Institute of Technology, University of Illinois at Chicago
- Mathematics Section Panel, American Academy of Arts and Sciences, 2010-11
- Speaker selection panel, Algebraic Geometry, International Congress of Mathematicians, Beijing
- Claremont Center for the Mathematical Sciences, Board of Trustees
- Search Committees for Vice-Chancellor for Academic Personnel, Dean of Physical Sciences and Dean of Honors, UCLA
- Research Committee of the Vice-Chancellor for Research, UCLA
- Institute for Pure and Applied Mathematics, Board of Trustees and Science Advisory Board
- American Mathematical Society Committee on the Profession
- Editor, Journal of Algebraic Geometry
- Natural Sciences and Engineering Research Council of Canada, Major Resources Support Committee
- UCLA Representative, Coalition for National Science Funding
- Mathematics Delegation, Meeting of Directors of G-7 National Science Foundations, Banff
- National Research Council Panel to evaluate the NSF Vertical Integration of Graduate Research and Education Program
- Academic Advancement Program Faculty Committee, UCLA
- Executive Committee of the College of Letters and Science, UCLA
- Co-creator, UCLA’s Math and Science Scholars (MS²) Program for underrepresented minorities
- Co-creator, UCLA’s Honors Algebra and Honors Analysis courses

Selected Publications

- [1] Green, M., "Holomorphic maps into complex projective space omitting hyperplanes," *Trans. Amer. Math. Soc.*, 169, (1972), 89-103.
- [2] Green, M., "The moving frame, differential invariants and rigidity theorems for curves in homogeneous spaces," *Duke Math. J.* 45, (1978), 735-779.
- [3] Green, M., "The hyperbolicity of the complement of $2n + 1$ hyperplanes in general position in P^n and related results," *Proc. Amer. Math. Soc.* 66, (1977), 109-113.
- [4] Green, M., "On the analytic solution of the equation of fifth degree," *Compositio Math.* 37, (1978), 233-241.
- [5] Green, M. and Griffiths, P. "Two applications of algebraic geometry to entire holomorphic mappings," *The Chern Symposium 1979* (Proc. Internat. Sympos., Berkeley, Calif., 1979), pp.41-74, Springer, New York-Berlin, 1980.
- [6] Carlson, J., Green, M. Griffiths, P. and Harris, J., "Infinitesimal Variations of Hodge Structure I," *Comp. Math* 50, no. 2-3, 109-205 (1983).
- [7] Green, M. "Quadrics of rank four in the ideal of a canonical curve," *Invent. Math.* 75 (1984), no. 1, 85-104.
- [8] Green, M., "Koszul cohomology and the geometry of projective varieties," *J. Diff. Geom.* 19, no. 1 (1984), 125-171.
- [9] Donagi, R. and Green, M., "A new proof of the symmetrizer lemma and a stronger weak Torelli theorem for projective hypersurfaces," *J. Diff. Geometry* 20, (1984), 459-461.
- [10] Green, M., "Koszul cohomology and the geometry of projective varieties II," *J. Diff. Geom.* 20, no. 1 (1984), 279-289.
- [11] Green, M. and Lazarsfeld, R., "On the projective normality of complete linear series on an algebraic curve," *Invent. Math.* 83 (1986), 73-90.
- [12] Green, M. and Lazarsfeld, R., "Special divisors on K -3 surfaces," *Invent. Math.* 89 (1987), 357-370.
- [13] Green, M. "Griffiths' infinitesimal invariant and the Abel-Jacobi map," *J. Differential Geom.* 29 (1989), no. 3, 545-555.
- [14] Green, M. and Lazarsfeld, R. "Higher obstructions to deforming cohomology groups of line bundles," *J. Amer. Math. Soc.* 4(1991), no. 1, 87-103.
- [15] Eisenbud, D., Green, M. and Harris, J., "Higher Castelnuovo theory," *Asterisque* 218 (1993), 187-202.
- [16] Eisenbud, D. and Green, M., "Ideals of minors in free resolutions," *Duke Math. J.* 75 (1994), no. 2, 339-352.
- [17] Green, M. "Higher Abel-Jacobi maps," *Proceedings of the International Congress of Mathematicians, Vol. II* (Berlin, 1998). *Doc. Math.* 1998, Extra Vol. II, 267-276.
- [18] Green, M. "The Eisenbud-Koh-Stillman conjecture on linear syzygies," *Invent. Math.* 136 (1999), no. 2, 411-418.
- [19] Green, M. "Statistics of images and the TV algorithm for denoising," preprint.
- [20] Green, M., Griffiths, P., "Hodge-theoretic invariants of algebraic cycles," *Internat. Math. Res. Notices* 9 (2003), 477-510.
- [21] Green, M. and Griffiths, P. "An interesting 0-cycle," *Duke Math. J.* 119 (2003), 261-313.

- [22] Green, M. and Griffiths, P., “Algebraic cycles and singularities of normal functions.” *Algebraic cycles and motives. Vol. 1*, 206--263, London Math. Soc. Lecture Note Ser., 343, *Cambridge Univ. Press, Cambridge*, (2007)
- [23] Green, M. and Griffiths, P., “Algebraic cycles and singularities of normal functions II,” *Nankai Tracts in Mathematics* 11, (2006), 179-268.
- [24] Green, M., Griffiths, P. and Kerr, M., “Neron models and boundary components for degenerations of Hodge structure of mirror quintic type,” *Contemporary Mathematics* 465, (2008), 71-146.
- [25] Green, M., Griffiths, P. and Kerr, M., “Neron models and limits of Abel-Jacobi mappings,” *Compositio Math.* 146 (2010), 288-366.

Books

- [1] Green, M., Murre, J. and Voisin, C., *Algebraic Cycles and Hodge Theory*, Springer-Verlag (1994).
- [2] Green, M. and Griffiths, P., *On the Tangent Space to the Space of Algebraic Cycles on a Smooth Algebraic Variety*, *Annals of Mathematics Studies*, Princeton University Press (2005).
- [3] Green, M., Griffiths, P. and Kerr, M., *Mumford-Tate Groups and Domains: Their Geometry and Arithmetic*, *Annals of Mathematics Studies*, Princeton University Press (2012)
- [4] Green, M., Griffiths, P. and Kerr, M., *Hodge Theory, Complex Geometry and Representation Theory*, *CBMS Regional Conference Series in Mathematics* 118, American Mathematical Society (2013)