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MSJ (Mathematical Society of Japan)

### Research Interest:

- Algebraic Geometry, especially Algebraic cycles
- Vanishing cycles

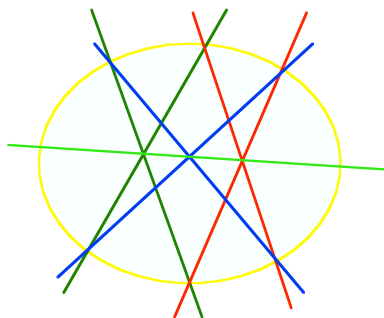
### Research Summary:

I have studied algebraic geometry, especially relationship between algebraic cycles or structure of Chow groups and Hodge structure (or motives). Moreover, I am also interested in relation of singularity theory with representations of groups, calculations of periods and Neron-Severi groups of surfaces stemmed from my study of vanishing cycles via bivariant Chow theory. The problem is of arithmetic nature while topology and differential geometry are also involved. Recently I am also interested in Enumerative geometry and curves.



### Major Publications:

- [1] H. Saito, Even-relative-dimensional vanishing cycles in bivariant intersection theory, Nagoya Math. J **187** (2007), 49–73.
- [2] H. Saito, Generalization of Abel's theorem and some finiteness property of zero-cycles on surfaces, Compositio Mathematica **84** (1992), 289–322.



## Education and Appointments:

- 1980 Research Assistant, Nagoya University
- 1990 Assistant Professor, Kanazawa University
- 1995 Assistant Professor, Nagoya University

## Message to Prospective Students:

text books read so far:

- Algebraic Geometry : Kenji Ueno, Algebraic Geometry 1: From Algebraic Varieties to Schemes, Algebraic Geometry 2: Sheaves and Cohomology, Providence, R.I. : American Mathematical Society.
- Algebraic Geometry : David Cox, John Little, Donal O'Shea, Ideals, varieties, and algorithms : an introduction to computational algebraic geometry and commutative algebra, Springer.
- Algebraic Geometry : I. R. Shafarevich, Basic Algebraic Geomtery, vol. 1, 2, Springer Verlag.
- Algebraic Geometry : D. Mumford, The Red Book of varieties and schemes, Springer Verlag.
- Elliptic curves : Henry McKean & Victor Moll, Ellipctic curves function theroxy, geometry, arithmetic Cambridge University Press, 1997

In algebraic geometry, the knoledge of projective geometry is useful (or rather indispensable) althogh projective geometry may be scarcely touched upon in usual curriculum of geometry.

Standard textbook on intersection theory of algebraic cycles: W. Fulton, Intersection theory, Springer Verlag, 1984

