Curriculum Vitae
Christopher Scott Peterson

I. PERSONAL INFORMATION

Address:

Chris Peterson		Chris Peterson
Dept. of Mathematics	OR	1731 Norwood Lane
Colorado State University		Fort Collins, Colorado 80525
Fort Collins, CO 80523		

Tel (Cell):	(970) 222-3206	**Place of Birth:**	Boston, Mass.
Tel (Office):	(970) 491-5153	**Citizenship:**	U.S.A.
e-mail:	peterson@math.colostate.edu	**Hometown:**	Gainesville, Florida

Education:

PhD in Mathematics in 1994, Duke University, Durham, NC
  Thesis Title: *Applications of Liaison Theory to Schemes Supported on Lines, Growth*
                of the Deficiency Module, and Low Rank Vector Bundles
   Thesis Advisors: David Morrison of Duke University
                   Juan Migliore of The University of Notre Dame

Research Interests:

Pure

- Vector Bundles and Special Varieties: Construction, Moduli Spaces, Classification,
   Existence Questions for Low Rank Vector Bundles

- Liaison Theory and other related Equivalence Relations on Schemes and Sheaves

- Hyperdeterminants, Resultants, Discriminants

- Algebraic Geometry of Tensor Parameter Spaces - Secant Varieties, Border Rank, etc.

- Algebraic/Geometric/Topological Combinatorics

Applied/Computational

- Computational Methods in Algebraic Geometry and Commutative algebra
        Symbolic - Gröbner bases, Exterior Algebra Methods
        Symbolic/Numeric - Numerical Algebraic Geometry, Homotopy Continuation

- Numerical Analysis - Generalized SVD, Low Rank Approximation of Tensors, Decomposition of
                Tensors, Recovery of Exactness via Lattice Reduction, Optimization on Manifolds

- Geometric/Topological Data Analysis - Image Analysis, Computer Vision, Stochastic Resonance,
                Super-resolution, Pattern Recognition, Face Recognition, Novelty
                Detection, Data Bundles/Mining, Statistics on Manifolds, Persistence

- Applied Algebraic Geometry

Experience:
- 1985, 1986-1987 Computer Programmer: AFS (American Financial Systems)

- 1985-1986 Teacher: Jakarta International School, Jakarta, Indonesia

- 1987-1991 Teaching Assistant/Instructor: Duke University

- 1991-1994 Visiting Scholar: University of Notre Dame

- 1994-1998 Visiting Assistant Professor: University of Notre Dame

- 1998 Summer CNR Visiting Professor at the University of Genova, Genova, Italy

- 1998-1999 Chauvenet Assistant Professor: Washington University, Saint Louis

- 1999-2004 Assistant Professor: Colorado State University (on leave 2001-2003)

- 2001-2003 Visiting Assistant Professor: Purdue University

- 2004-2010 Associate Professor: Colorado State University (on leave Fall 2006)

- 2006 Summer GNSAGA Visiting Professor at Univ. of Florence, Florence, Italy

- 2006 Fall IMA Long Term Visitor: Institute for Mathematics and its Applications (IMA)

- 2010-present Full Professor: Colorado State University

- 2011 Long Term Visitor: Institute Mittag-Leffler, Sweden

- 2013 Summer INDAM Visiting Professor - University Reggio di Calabria, Reggio Calabria, Italy

Additional Teaching Experience:
- Summer of 1998, taught a mini course on Computational Algebraic Geometry in Genova, Italy.

- Summer of 2000, assisted: Course on Special Rings of Algebraic Geometry in Catania, Italy.

- Summer of 2001, taught a mini course on Computational Algebraic Geometry in Kingston, Canada.

- Summer of 2004, taught a course on Algebraic Geometry in Perugia, Italy.

- Summer of 2005, taught a course on Algebraic Vector Bundles in Cortona, Italy.

- February of 2010, taught a mini-course on Algebraic Geometry in San Jose, Costa Rica.

- Summer of 2010, taught a course on Algebraic Geometry in Perugia, Italy.

- February of 2011, taught a mini-course on Interactions of Algebraic Geometry in Morelia, Mexico.

- October of 2011, co-taught a mini-course on Algebraic Geometry in Asuncion, Paraguay.

- Summer of 2012, co-taught a mini-course on Persistent Homology in San Jose, Costa Rica.

- October of 2013, co-taught a mini-course on Secant Varieties in Messina, Italy.

- Summer of 2015, co-taught a mini-course on Group Theory in Asuncion, Paraguay.

Teaching Awards:
- L.P. and Barbara Smith Undergraduate Teaching Award in 1990 (Duke University)

- Graduate Teaching Award in 2001, 2009 (Colorado State University)

II. PUBLICATIONS

Commutative Algebra/Algebraic Geometry

[1] C. Peterson, *Applications of Liaison Theory to Schemes Supported on Lines, Growth of the Deficiency Module, and Low Rank Vector Bundles,* PhD Thesis (1994), Advisors: David Morrison of Duke University and Juan Migliore of The University of Notre Dame

[2] C. Peterson, *Powers of ideals and growth of the deficiency module,* Queen's Papers in Pure and Applied Mathematics; Curves Seminar at Queen's vol.9, Queen's University, Kingston, Ontario (1994)

[3] J. Migliore, C. Peterson, Y. Pitteloud, *Ropes in projective space*, Journal of Mathematics of Kyoto University Vol. 36, pg 251-278 (1996)

[4] C. Peterson, *Monomial curves and schemes supported on lines*, Communications in Algebra Vol. 25 (7), pg 2029-2037 (1997)

[5] J. Migliore and C. Peterson, *A construction of codimension three arithmetically Gorenstein subschemes of projective space*, Transactions of the AMS Vol. 349, pg 3803-3821 (1997)

[6] C. Peterson, *Quasi-complete intersections, powers of ideals and deficiency modules*, Journal of Algebra Vol. 204 pg 1-14 (1998)

[7] J. Migliore, U. Nagel and C. Peterson, *Buchsbaum-Rim sheaves and their multiple sections.* Journal of Algebra Vol. 219 pg 378-420 (1999)

[8] M. Kreuzer, J. Migliore, U. Nagel and C. Peterson, *Determinantal schemes and Buchsbaum-Rim sheaves*, Journal of Pure and Applied Algebra Vol. 150, Issue 2 pg 155-174 (2000)

[9] J. Migliore, U. Nagel and C. Peterson, *Constructing schemes with prescribed cohomology in arbitrary codimension*, Journal of Pure and Applied Algebra Vol. 152, Issue 1-3 (Special Edition in honor of David Buchsbaum) pg 245-251 (2000)

[10] N.M. Kumar, C. Peterson and A.P. Rao, *Hilbert Scheme components in characteristic 2*, Communications in Algebra Vol. 28 (12) (Special Edition in honor of Robin Hartshorne's Birthday) pg 5735-5744 (2000)

[11] J. Migliore, U. Nagel and C. Peterson, *Bezout's theorem and Cohen-Macaulay modules*, Mathematische Zeitschrift Vol. 237 pg 373-394 (2001)

[12] J. Kleppe, J. Migliore, R-M. Miro-Roig, U. Nagel and C. Peterson, *Gorenstein liaison, complete intersection liaison invariants and unobstructedness*, Memoirs of the AMS 732 (2001)

[13] J. Kleppe and C. Peterson, *Maximal Cohen-Macaulay Modules and Gorenstein Algebras*, Journal of Algebra Vol. 238 pg 776-800 (2001)

[14] N.M. Kumar, C. Peterson and A.P. Rao, *Constructing Low Rank Vector Bundles on $\mathbb{P}^4$ and $\mathbb{P}^5$*, Journal of Algebraic Geometry Vol. 11 pg 203-217 (2002)

[15] J. Kleppe and C. Peterson, *Sheaves with Canonical determinant on Cohen-Macaulay schemes*, Journal of Algebra Vol. 256 pg 250-279 (2002)

[16] N.M. Kumar, C. Peterson and A.P. Rao, *Degenerating families of rank two Bundles*, Proceedings of the AMS Vol. 131 Number 12 pg 3681-3688 (2003)

[17] N.M. Kumar, C. Peterson and A.P. Rao, *Standard Vector Bundle Deformations on $\mathbb{P}^n$*, Contemporary Mathematics 322 "Hilbert Schemes, Vector Bundles and their interplay with Representation Theory (Columbia , MO 2002)" pg 151-163 (2003)

[18] N.M. Kumar, C. Peterson and A.P. Rao, *Monads on Projective Spaces*, Manuscripta Mathematica Vol. 112 Number 2 pg 183-189 (2003)

[19] H. Abo, G. Ottaviani and C. Peterson, *Induction for secant varieties of Segre varieties*, Trans. Amer. Math. Soc. Vol. 361 Number 2 pg 767-792 (2009)

[20] H. Abo, H. Kley and C. Peterson, *On two-plane arrangements in P^4 with Petersen incidence graphs*, Advances in Geometry Vol. 9 Number 3 pg 349-370 (2009)

[21] H. Abo, G. Ottaviani and C. Peterson, *Non-defectivity of Grassmannians of planes*, Journal of Algebraic Geometry Vol. 21 pg 1-20 (2012)

[22] H. Abo, D. Eklund, T. Kahle, and C. Peterson, *Eigenschemes and the Jordan Canonical Form*, Linear Algebra and its Applications, Vol. 496 pg 121-151 (2016)

Numerical/Computational Algebraic Geometry

[23] J. Migliore and C. Peterson, *A Symbolic Algorithm for (i,j)-Uniformity of Reduced Zero Dimensional Schemes*, Journal of Symbolic Computation Vol. 37 Number 3 pg 403-413 (2004)

[24] D. Arapura and C. Peterson, *The common invariant subspace problem: an approach via Gröbner bases*, Linear Algebra and its Applications Vol. 384 pg 1-7 (2004)

[25] H. Abo and C. Peterson, *Implementation of Kumar's correspondence*, In ISSAC '06 (International Symposium on Symbolic and Algebraic Computation, Genoa, Italy), pg 9-16, ACM Press, New York (2006)

[26] D. Bates, C. Peterson and A. Sommese, *A numerical-symbolic algorithm for computing the multiplicity of a component of an algebraic set*, Journal of Complexity 22 (4) pg 475-489 (2006)

[27] D. Bates, C. Peterson and A. Sommese, *Applications of a Numerical Version of Terracini's Lemma for Secants and Joins*, Algorithms in Algebraic Geometry: The IMA Volumes in Mathematics and its Applications, Vol. 146 pg 1-14 Springer Science, New York (2008)

[28] E. Smith and C. Peterson, *Geometric properties of locally minimal energy configurations of points on spheres and special orthogonal groups*, Milestones in Computer Algebra MICA 2008: A conference in honour of Keith Geddes' 60th birthday (2008)

[29] J. Hauenstein, J. Migliore, C. Peterson, A. Sommese, *Numerical Computation of the Dimension of the Cohomology of Twists of Ideal Sheaves*, Contemporary Mathematics 496 "Interactions of Classical and Numerical Algebraic Geometry (Notre Dame, IN 2008)", pg 235-242, (2009)

[30] D. Bates, J. Hauenstein, C. Peterson, A. Sommese, *A local Dimension Test*, SIAM J. Numer. Anal. Volume 47, Issue 5, pp. 3608-3623 (2009)

[31] D. Bates, J. Hauenstein, C. Peterson, A. Sommese, *Numerical decomposition of the rank-deficiency set of a polynomial matrix*, Approximate Commutative Algebra, L. Robbiano and J. Abbott (eds.), Texts and Monographs in Symbolic Computation, Springer-Verlag, Vienna (2010)

[32] D. Bates, C. Peterson, A. Sommese and C. Wampler, *Numerical computation of the genus of an irreducible curve within an algebraic set*, Journal of Pure and Applied Algebra Vol. 215(8), pg 1844-1851 (2011)

[33] S. Di Rocco, D. Eklund, C. Peterson, A. Sommese *Chern numbers of smooth varieties via homotopy continuation and intersection theory*, Journal of Symbolic Computation, Volume 46, Issue 1, pp 23-33 (2011)

[34] E. Hanson, F. Motta, C. Peterson, L. Ziegelmeier *On the Strengthening of Topological Signals in Persistent Homology through Vector Bundle Based Maps*, Proceedings of the Canadian Conference on Computational Geometry 2012, pg 303-308 (2012)

[35] D. Bates, D. Eklund, C. Peterson *Intersections of Chern numbers of smooth varieties*, Journal of Symbolic Computation Vol. 50, pg 493-507 (2013)

[36] D. Eklund, C. Jost, C. Peterson, *A method to compute Segre classes of subschemes of projective space*, Journal of Algebra and its Applications Vol 12, Number 2 (2013)

[37] D. Bates, J. Hauenstein, T. McCoy, C. Peterson, A. Sommese, *Recovering exact results from inexact numerical data in algebraic geometry*, Experimental Mathematics, Vol. 22, Issue 1, pg 38-50 (2013)

[38] Z. Griffin, J. Hauenstein, C. Peterson, A. Sommese, *Numerical computation of the Hilbert function of a zero-scheme*, Springer Proceedings in Mathematics and Statistics: Connections between Algebra and Geometry, Vol 76 (2014)

[39] D. Bates, W. Decker, J. Hauenstein, C. Peterson, G. Pfister, F.O. Schreyer, A. Sommese, C. Wampler, *Comparison of probabilistic algorithms for analyzing components of an affine algebraic variety*, Applied Mathematics and Computation, Vol 231, pg 619-633 (2014)

[40] B. Draper, M. Kirby, J. Marks, T. Marrinan, C. Peterson, *A Flag Representation for Finite Collections of Subspaces of Mixed Dimensions*, Linear Algebra and its Applications 451, pg 15-32 (2014)

[41] D. Bates, B. Davis, D. Eklund, E. Hanson, C. Peterson, *Perturbed Homotopies for Finding All Isolated Solutions of Polynomial Systems,* Applied Mathematics and Computation, Vol 247, pg 301-311 (2014)

[42] D. Bates, B. Davis, M. Kirby, J. Marks, C. Peterson, *The max-length-vector line of best fit to a set of vector subspaces and an optimization problem over a set of hyperellipsoids,* Numerical Linear Algebra with Applications, Volume 22, pg 453-464, (2015)

[43] S. Di Rocco, D. Eklund, C. Peterson *Numerical Polar Calculus and Cohomology of Line Bundles*, Advances in Applied Mathematics, Vol 100, pg 148-162 (2018)

[44] T. McCoy, C. Peterson, A. Sommese, *The numerical irreducible decomposition over a Number Field*, To appear in Journal of Algebra and its Applications

Combinatorics/Discrete

[45] C. Frederick and C. Peterson, *Ramsey Regions*, Discrete Mathematics Vol. 308 (18) pg 4079-4085 (2008)

[46] G. Failla, C. Peterson, R. Utano, *Algorithms and Asymptotics for Generalized Numerical Semigroups in $\mathbb{N}^d$*, Semigroup Forum, 92(2), pg 460-473 (2016)

[47] M. Adamaszek, H. Adams, F. Frick, C. Peterson, C. Previte, *Nerve complexes of circular arcs*, Discrete and Computational Geometry, Vol. 56(2), pg 251-273 (2016)

Geometric Data Analysis/Applications

[48] C. Peterson, J. Rosenthal, P. Weiner, *Connections between multidimensional systems theory and algebraic geometry*, Proceedings of the 34th Annual Allerton Conference on Communications, Control and Computing pg 583-592 (1997)

[49] R. Beveridge, Jen-Mei Chang, B. Draper, M. Kirby, H. Kley, and C. Peterson, *Illumination Face Spaces are Idiosyncratic*, In IPCV '06, volume 2 (International Conference on Image Processing, Computer Vision and Pattern Recognition), pages 390-396. CSREA Press, (2006)

[50] R. Beveridge, Jen-Mei Chang, B. Draper, M. Kirby, H. Kley and C. Peterson, *Examples of set-to-set image classification*, In Seventh International Conference on Mathematics in Signal Processing Conference Digest, The Royal Agricultural College, Cirencester, England, Institute for Mathematics and its Applications, Pages 102-105, (2006)

[51] Jen-Mei Chang, M. Kirby, C. Peterson, *Set to Set Face Recognition under variations in pose and illumination*, Proceedings of the 2007 Biometrics Symposium of The Biometrics Consortium Conference, Baltimore, MD, Sept 11-13, (2007).

[52] R. Beveridge, Jen-Mei Chang, B. Draper, M. Kirby, H. Kley and C. Peterson, *Recognition of Digital Images of the Human Face at Ultra Low Resolution via Illumination Spaces*, In ACCV '07, part 2 (8th Asian Conference on Computer Vision, Tokyo, Japan) in Springer Lecture Notes in Computer Science, Vol. 4844, pg 733-743, (2007).

[53] R. Beveridge, Jen-Mei Chang, B. Draper, M. Kirby, H. Kley and C. Peterson, *Principal Angles Separate Subject Illumination Spaces in YDB and CMU-PIE*, IEEE Trans. Pattern Analysis and Machine Intelligence, Vol. 31 Number 2, pg 351-363, (2009).

[54] Jen-Mei Chang, M. Kirby, C. Peterson, *Feature Patch Illumination Spaces and Karcher Compression for Face Recognition via Grassmannians*, Advances in Pure Mathematics Vol 2, No. 4, (2012) pg 226-242.

[55] B. Draper, M. Kirby, T. Marrinan, C. Peterson, *Finding the Subspace Mean or Median to Fit Your Need*, Computer Vision and Pattern Recognition (CVPR) (2014)

[56] T. Marrinan, R. Beveridge, B. Draper, M. Kirby, C. Peterson, *Flag Manifolds for the Characterization of Geometric Structure in Large Data Sets*, Proceedings of ENUMATH 2013, the 10th European Conference on Numerical Mathematics and Advanced Applications, Lausanne, August 2013, Springer Lecture Notes in Computational Sciance and Engineering, Vol 103, Abdulle, A., Deparis, S., Kressner, D., Nobile, F., Picasso, M. (Eds.) (2014)

[57] K. Wang, J. Thompson, C. Peterson, M. Kirby, *Identity maps and their extensions on parameter spaces: Applications to anomaly detection in video*, Proceedings of Science and Information Conference (SAI) (2015)

[58] Sofya Chepushtanova, Michael Kirby, Chris Peterson, L. Ziegelmeier *An Application of Persistent Homology on Grassmann Manifolds for the Detection of Signals in Hyperspectral Imagery*, International Geosciences and Remote Sensing Symposium (IGAARS) (2015)

[59] Sofya Chepushtanova, Michael Kirby, Chris Peterson, L. Ziegelmeier *Persistent Homology on Grassmann Manifolds for Analysis of Hyperspectral Movies*, Lecture Notes in Computer Science: 6th International Workshop on Computational Topology in Image Context (CTIC) (2016)

[60] T. Marrinan, J.R. Beveridge, B. Draper, M. Kirby and C. Peterson., *Flag-based Detection of Weak Gas Signatures in Long-Wave Infrared Hyperspectral Image Sequences*, Algorithms and Technologies for Multispectral, Hyperspectral, and Ultraspectral Imagery XXII SPIE Defense + Security. International Society for Optics and Photonics. (2016)

[61] I. Santamaria, L. Scharf, C. Peterson, M. Kirby, J. Francos, *An order fitting rule for optimal subspace averaging*, IEEE Statistical Signal Processing Workshop (SSP) (2016)

[62] T. Emerson, M. Kirby, C. Peterson, L. Scharf, *Reduced Dimension Estimators in Matched Subspace Detection*, IEEE Workshop on Hyperspectral Image and Signal Processing : Evolution in Remote Sensing (WHISPERS) (2016)

[63] L. Ziegelmeier, M. Kirby, C. Peterson, *A quadratic program to stratify high dimensional data based on proximity to the boundary of the convex hull*, SIAM Review 59 (2), pg 346-365 (2017)

[64] H. Adams, S. Chepushtanova, T. Emerson, E. Hanson, M. Kirby, F. Motta, R. Neville, C. Peterson, P. Shipman, L. Ziegelmeier, *Persistence Images: An Alternative Persistent Homology Representation*, Journal of Machine Learning Research 18(8), pg 1-35 (2017)

[65] M. Kirby, C. Peterson, *Visualizing Data Sets on the Grassmannian Using Self-Organizing Mappings*, 12th International Workshop on Self-Organizing Maps and Learning Vector Quantization, Clustering and Data Visualization (2017)

[66] L. Ziegelmeier, M. Kirby, C. Peterson, *Sparse Local Linear Embedding*, International Conference on Computational Science (ICCS), Procedia Computer Science 108C, pg 635-644 (2017)

[67] I. Santamaria, J. Via, M. Kirby, T. Marrinan, C. Peterson, L. Scharf, *Constrained Subspace Estimation via Convex Optimization*, 25th European Signal Processing Conference (EUSIPCO) (2017)

[68] R. Arn, B. Draper, T. Emerson, M. Kirby, P. Narayana, C. Peterson, *Motion Segmentation via generalized curvatures*, To appear in Transactions on Pattern Analysis and Machine Intelligence

[69] J. Álvarez-Vizoso, M. Kirby, C. Peterson, *Manifold Curvature from Covariance Analysis*, To appear in Proceedings of the IEEE Statistical Signal Processing Workshop (SSP) 2018

[70] E. Farnell, H. Kvinge, M. Kirby, C. Peterson, *A GPU implementation of algorithms for dimensionality reduction inspired by Whitney's embedding theorem*, To appear in 2018 IEEE International Symposium on Parallel and Distributed Computing (ISPDC) 2018

[71] E. Farnell, H. Kvinge, M. Kirby, C. Peterson, *Endmember Extraction on the Grassmannian*, To appear in 2018 IEEE Data Science Workshop (DSW) 2018

[72] E. Farnell, H. Kvinge, M. Kirby, C. Peterson, *Too many secants: a hierarchical approach to secant-based dimensionality reduction on large data sets*, To appear in 2018 IEEE High Performance Extreme Computing Conference (HPEC) 2018

Patents

[71] M. Kirby and C. Peterson, *US Patent # 7,917,540 for "Nonlinear Set to Set Pattern Recognition"*, Publication Date: March 29, 2011.

[72] M. Kirby, J. Beveridge, J-M Chang, B. Draper, H. Kley, C. Peterson, *US Patent # 8,116,566 for "Unknown pattern set recognition"*, Publication Date: February 12, 2012.

III. LECTURES, SEMINARS, ETC

About 100 Colloquium / Seminar / Workshop / Conference talks

IV. International Mini-Courses

- CNR Visiting Professor May/June 1998 at The University of Genova
  Presented 6 lecture series on Computational Methods in Algebraic Geometry
  Genova, Italy

- P.R.A.G.M.A.T.I.C. 2000 Summer School
  Promotion of **R**esearch in **A**lgebraic **G**eometry for **MAT**hematicians in **I**solated **C**entres.
  Collaborated (with Juan Migliore, Tony Geramita and Anna Bigatti)
  Lectures by Juan Migliore and Tony Geramita on *Some special rings of Algebraic Geometry*
  Anna Bigatti and myself assisted in project meetings with 20 graduate students
  June 7 - June 23, 2000 at The University of Catania, Catania, Italy

- CoCoA VII: Seventh international CoCoA conference
  Presented an 8 lecture minicourse on Computational Algebraic Geometry
  July 16 - July 23, 2001 in Kingston, Ontario, Canada

- Programmi Corso Estivo Perugia - Scuola Matematica Interuniversitaria
  Presented a 25 lectures / 10 afternoon sessions course on Algebraic Geometry
  August 1 - September 4, 2004 in Perugia, Italy

- Programmi Corso Estivo Cortona - Scuola Matematica Interuniversitaria
  Presented an 11 lectures / 10 afternoon sessions course on Advanced Algebraic Geometry
   with a focus on Algebraic Vector Bundles, run in parallel with a course by Alessio Corti
  August 14 - August 27, 2005 in Cortona, Italy

- International Exchange - University of Costa Rica
  Presented a 10 lecture course on Algebraic Geometry (joint with Elly Smith)
  February 1 - February 14, 2010 in San Jose, Costa Rica

- Programmi Corso Estivo Perugia - Scuola Matematica Interuniversitaria
  Presented a 25 lectures / 10 afternoon sessions course on Algebraic Geometry
  August 1 - September 4, 2010 in Perugia, Italy

- Mini-course - University of Michoacan
  Presented a 4 lecture course on Interactions of Algebraic Geometry
  February 22 - February 25, 2011 in Morelia, Mexico

- Mini-course - Universidad National de Asuncion
  Presented a 16 lecture course on Algebraic Geometry (joint with Juan Migliore)
  October 10 - October 20, 2011 in Asuncion, Paraguay

- International Exchange - University of Costa Rica
  Presented a 10 lecture course on Persistent Homology (joint with Lori Ziegelmeier)
  July/August, 2012 in San Jose, Costa Rica

- CCAAG IV (Int. School on Computational Commutative Algebra and Algebraic Geometry)
  Scientific/Organizing Committee (with Gaetana Restuccia, Rosanna Utano)
  Presented a 6 lecture course on Secant Varieties (joint with Hirotachi Abo)
  October 21-26, 2013 in Villa Pace, Messina, Italy

- Mini-course - Universidad National de Asuncion
  Presented a 10 lecture course on Group Theory with Applications (joint with Juan Migliore)
  July 20 - July 30, 2015 in Asuncion, Paraguay

V. CONFERENCES ORGANIZED

Coorganizer (with Karen Chandler, Alan Howard, Juan Migliore, Joachim Rosenthal,
Dennis Snow, Andrew Sommese all of the University of Notre Dame)
(My role as a coorganizer was rather limited in this conference!)
The Midwest Algebraic Geometry Conference
November 7-9, 1997 at The University of Notre Dame, Notre Dame, Indiana

Coorganizer (with Juan Migliore)
Special session on *Commutative Algebra*
Sectional Meeting of the AMS (meeting #953)
April 8-9, 2000 at The University of Notre Dame, Notre Dame, Indiana

Coorganizer (with Bangeree Purnaprajna)
Special session on *Algebraic Geometry*
Sectional Meeting of the AMS (meeting #964)
March 30-31, 2001 at The University of Kansas, Lawrence, Kansas

Coorganizer (with Vincenzo Ancona, N. Mohan Kumar, Giorgio Ottaviani, A. Prabhakar Rao)
Special session on *Algebraic Vector Bundles*
First Joint International Meeting of the AMS-UMI
June 12-16, 2002 at The University of Pisa, Pisa, Italy

Coorganizer (with Holger Kley and Rick Miranda)
Special session on *Algebraic Geometry*
Sectional Meeting of the AMS (meeting #989)
October 2-4, 2003 at The University of Colorado, Boulder, Colorado

Coorganizer (with Hirotachi Abo, Holger Kley)
WAGS/Fall '04 (Western Algebraic Geometry Seminar)
October 9-10, 2004 at Colorado State University, Fort Collins, Colorado

Coorganizer (with Hirotachi Abo)
Special session on *Algebraic Geometry*
Sectional Meeting of the AMS (meeting #1000)
October 16-17, 2004 at The University of New Mexico, Albuquerque, New Mexico

Coorganizer (with Don Estep, Andrew Sommese, Simon Tavener)
Workshop on *Geometry and Symmetry in Numerical Computation*
(Funded by National Science Foundation Grant #0509873)
August 8-10, 2005 at Colorado State University, Fort Collins, Colorado

Coorganizer (with Andrew Sommese)
Special session on *Numerical Solution of Polynomial Systems*
Sectional Meeting of the AMS (meeting #1016)
April 8-9, 2006 at The University of Notre Dame, Notre Dame, Indiana

Coorganizer (with Justin Sawon)
WAGS/Fall '07 (Western Algebraic Geometry Seminar)
October 20-21, 2007 at Colorado State University, Fort Collins, Colorado

Coorganizer (with Hirotachi Abo, Anthony Geramita)
Special session on *Secant Varieties and Related Topics*
National Meeting of the AMS (meeting #114)
January 6-9, 2008 at the San Diego Convention Center, San Diego, California

Coorganizer (with Laurent Busé, Teresa Krick)
Workshop on *Computational Algebraic Geometry*
Foundations of Computational Mathematics (FoCM '08)
June 16-26, 2008 at the City University of Hong Kong, Hong Kong, China

Scientific Committee
International School/Workshop on the Algebro-Geometric Aspects of Projective Varieties
Institute of Physics and Mathematics of the University of Michoacan
February 22-25, 2011 at IFM-UMNSNH, Morelia, Mexico

Coorganizer (with Laurent Busé, Carlos D'Andrea)
Workshop on *Computational Algebraic Geometry*
Foundations of Computational Mathematics (FoCM '11)
July 4-14, 2011 at the Budapest University of Technology and Economics, Budapest, Hungary

Coorganizer (with Renzo Cavalieri, Dan Bates, Jeff Achter, Rachel Pries)
WAGS/Fall '11 (Western Algebraic Geometry Seminar)
October 9-10, 2011 at Colorado State University, Fort Collins, Colorado

Program Committee (with Henry Cohn, Ioannis Emiris, Robert Ghrist, Gilles Gnacadja,
Tanja Lange, Reinhard Laubenbacher, Peter Olver, Bernd Sturmfels, Rekha Thomas)
Coorganizer (w/ Dan Bates, Renzo Cavalieri, Alexander Hulpke, Rachel Pries, Amelia Taylor)
2013 SIAM Conference on Applied Algebraic Geometry
August 1-4, 2013 at Colorado State University, Fort Collins, Colorado

Coorganizer (with Hirotachi Abo, Luke Oeding, Giorgio Ottaviani)
Mini-Symposium: *Algebro-geometric approaches to tensor spaces/decomposition/identifiability*
2013 SIAM Conference on Applied Algebraic Geometry
August 1-4, 2013 at Colorado State University, Fort Collins, Colorado

Organizer
Mini-Symposium: *Aspects of Grassmann manifolds with a view towards applications*
2015 SIAM Conference on Applied Algebraic Geometry
August 3-7, 2015 at NIMS, Dajeon, Korea

Coorganizer (with Renzo Cavalieri, Dan Bates, Jeff Achter, Rachel Pries, Mark Shoemaker)
WAGS/Fall '16 (Western Algebraic Geometry Seminar)
October 15-16, 2016 at Colorado State University, Fort Collins, Colorado