# Jeffrey C. Smith
## Curriculum Vitae

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    NASA Ames Research Center
    Mail Stop 244-30
    Moffett Field, CA 94035-1000
    USA
    (650) 604-0556
    jeffrey.smith@nasa.gov

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## Academic History:

**Cornell University, Ph.D. in Physics**     May 2007
    Research Adviser: Professor David Rubin
    Dissertation Title:
        "The Preservation of Emittance and Polarization
        in the International Linear Collider"

**Cornell University, M.S. in Physics**     March 2005

**Knox College, B.A. in Physics**     June 2001
    *Magna Cum Laude*
    *Phi Beta Kappa*
    *College Honors*
    Research Adviser: Professor Andrew McDowell
    Thesis Title:
        "Design and Construction of a Fixed-Frequency Cyclotron"

## Other Academic Experience:
**University of California, Santa Cruz**     January 2008
US Particle Accelerator School "Microwave Measurement and Beam Instrumentation Lab"

**University of California, Santa Barbara**     June 2003
US Particle Accelerator School "Physics and Techniques of Linear Collider Facilities"

**University of Aberdeen, Scotland**     1999
    Visiting Student

## Awards and Honors:
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|---|---|
| NASA Exceptional Technology Achievement Medal | 2012 |
| NASA Ames Honor Award For Excellence in the Category of Contractor Employee | 2012 |
| APS California Section Luis Alvarez Award for Best Experimental Research | 2009 |
| Induction into $\Sigma\Xi$, the U.S. Scientific Research Society | 2001 |
| *AAPT*, Illinois Section, 1st place in Student Research Symposium | 2001 |
| Ford Fellowship Grant for Undergraduate Independent Research | 2000 |
| Richter Memorial Scholarship for Undergraduate Independent Research | 2000 |

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| Ellen Browning Scripps Academic Scholarship | 1997 |
| Knox College Music Scholarship | 1997 |
| John Phillip Sousa U.S. Marine Award in Music | 1997 |
| Illinois Music All-State for Trombone Performance | 1995, 1996, 1997 |

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## Employment History & Research Experience:

### SETI Institute / NASA Ames Research Center
**Principal Investigator / Data Scientist**          **February 2014 - Present**

Principal Investigator for the NASA Cooperative Agreement entitled "Science Processing Support for the Extended Kepler Mission". Design and development of signal processing algorithms for the Kepler Science Processing Pipeline and the Transiting Exoplanet Survey Satallite (TESS) Science Processing Pipeline.

- Coordinate with Mission Manager and Data Analysis Lead to schedule Data Scientist / Scientific Programmer staff work.
- Prioritize and plan software releases.
- Communicate with project management, Science Office, Science Team and Data Analysis Lead to develop new methodologies and to coordinate best use of software development staff to meet mission goals.
- Support and manage a team of software developers.
- Lead developer for the Presearch Data Conditioning component to the Kepler Data Processing Pipeline.
- Study and implement methods for the preservation of stellar signals and the removal of both stochastic and systematic signals in the Kepler data.
- Lead the development of data processing algorithms for the K2 extended mission of the Kepler spacecraft.
- Designing and adapting the Kepler Pipeline for use within the TESS science processing pipeline.
- Develop a novel Optimal Aperture finding algorithm to improve the planet detection efficiency in Kepler Data.
- Tune and upgrade the Kepler Science Processing Pipeline based on results from current processing performance.
- Verify, validate and test new software releases.
- Maintain documentation.

### SETI Institute / NASA Ames Research Center
**Scientific Programmer**          **August 2010 - February 2014**

Member of the NASA Kepler Mission Science Operations Center. Development and implementation of signal processing algorithms for the Kepler Science Processing Pipeline.

- Lead developer for the Presearch Data Conditioning component to the Kepler Data Processing Pipeline.

- Developed a Bayesian Maximum A Posteriori (MAP) method to identify and remove systematic errors in Kepler Pipeline data.
- Developed method to identify robust Cotrending Basis Vectors in Kepler flux data.
- Study and implement methods for the preservation of stellar signals and the removal of stochastic and systematic effects in the Kepler Data.
- Tune and upgrade Science Processing Pipeline based on results from current processing performance.
- Verify, validate and test new software releases.
- Maintain documentation.

SLAC National Accelerator Laboratory
Research Associate                                    July 2007 - July 2010

   Member of the Large Hadron Collider (LHC) Accelerator Research Project engaged in design, simulation and hardware testing in support of the LHC and other accelerator based experiments.

- Actively designed, implemented and ran relativistic beam dynamics simulations tools such as BMAD/TAO, SixTrack, MAD-X and Elegant which are the principle tools used at accelerators worldwide. Intimate knowledge of BMAD/TAO and SixTrack and involved in the development of core libraries for numerical modelling and analysis algorithms.
- Designed and assembled bench-top experiments utilizing LabVIEW and National Instruments hardware, Network Analyzers, Spectrum Analyzers and other laboratory equipment using MATLAB for data analysis.
- Advised a diverse team including physicists, programmers, mechanical engineers, electrical engineers and technicians towards the development of a rotatable collimator.
- Collaborated with a multinational team of physicists on the Large Hadron Collider in Geneva, Switzerland.
- Extensive International travel for hardware commissioning, software co-development, meetings and conferences.
- Conducted independent and group research on numerous accelerator based hardware and software projects including:

   1. Simulations of multi-turn collimation efficiency in the LHC using several beam dynamics simulation tools on Linux workstations and clusters.

   2. Designed a rotatable collimator for use in the Large Hadron Collider (LHC) with careful regard for mechanical, thermal, electrical and vacuum properties of the device.

   3. Studied an LHC rotatable collimator for impedance contributions and performed bench-top thermal and mechanical tests on prototypes .

   4. Studied the feasibility of integrating a Hollow Electron Lens into the LHC Collimation System using beam dynamics simulation software.

   5. Studied emittance preservation techniques in the International Linear Collider (ILC) Ring To Main Linac using beam dynamics simulation software.

   6. Investigated methods to generate ultra-short sub-femtosecond X-ray pulses in the Linac Coherent Light Source.

Stanford Linear Accelerator Center (SLAC)
Visiting physicist                                    Jan-Jul 2006

- Performed detailed ILC simulation program crosschecking between: MatLIAR (SLAC), Lucretia (SLAC), TAO (Cornell), PLACET (CERN) and SLEPT (KEK).
- Worked in close collaboration with SLAC ILC Beam Dynamics Personnel on International Linear Collider (ILC) design and emittance preservation.

CORNELL UNIVERSITY LAB. FOR ELEMENTARY PARTICLE PHYSICS (LEPP)
GRADUATE RESEARCH ASSISTANT IN ACCELERATOR PHYSICS          2001-2007

Member of the International Linear Collider (ILC) group engaged in design and simulation in support of the proposed ILC.

- Co-wrote the computer simulation program TAO as a versatile simulation environment based on the BMAD beam simulation library. Tao is useful for both the operation of current and development of new accelerators. It now has a large user base at three accelerator physics institutions and is the primary simulation tool for many Cornell researchers.
- Actively developed new features for the BMAD beam simulation library. Contributions include spin tracking, beam distribution tracking and normal-mode beam analysis.
- Studied simulations of Beam-Based alignment techniques and steering algorithms to align the ILC to within micron precision along the full 30 kilometer facility.
- Actively collaborated with international committees and individuals around the world on the design of the proposed International Linear Collider.
- Presented research results at international conferences.
- Lead a team of undergraduate students on ILC beam dynamics studies.
- Designed the optics layout for the ILC Ring To Maim LINAC spin rotator.
- Helped design and build a prototype Fast Luminosity Monitor (FLM) for CESR. Developed simulation software to analyze the FLM spot size due to radiative Bhabha scattered electrons. Aided in installation and operation of the FLM device in the CESR storage ring/.
- Developed control room software for the measurement and optimization of CESR IR solenoid compensation and luminosity optimization.
- Built and operated a LabView based load cell control interface box and developed control software for the CESR Wiggler test stand.
- Participated in designing and building a prototype RF Quadrupole for Beam-Beam tune-shift compensation.
- Studied the effects of beam pipe conductive coatings on RF magnetic fields.

KNOX COLLEGE
UNDERGRADUATE RESEARCH                                        1998-2001

- Designed and built a 1.5 Mev 15 cm diameter cyclotron. Cyclotron plans of my own design. Utilized already available RF power supply and 2 Tesla NMR magnet. Restored Vacuum System and built all other components including the cyclotron vacuum chamber, Dees, RF resonator, Ion source and beam extraction.
- Obtained funding for independent undergraduate research.
- Wrote software in collaboration with Knox College faculty for QCD lattice gauge theory simulations.

CORNELL UNIVERSITY LAB. OF ELEMENTARY PARTICLE PHYSICS (LEPP)
RESEARCH EXPERIENCE FOR UNDERGRADUATES                      SUMMER 1999

- Built and tested a prototype signal processor for new Interaction Region Beam Position Monitors in the CESR storage ring.
- Converted CESR Synchrotron Fault Logic system cards to run on a -24 V fault signal in order to eliminate all +24 V power supplies in CESR.

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## Teaching Experience:

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| SETI Institute, | |
| Guided undergraduate student summer research | 2015 |
| Cornell University, Lab. for Elementary Particle Physics, | |
| Guided undergraduate student summer research | 2004-2005 |
| Cornell University, Lab. for Elementary Particle Physics, | |
| Elementary School Student Outreach | 2003-2006 |
| Cornell University, Lab. for Elementary Particle Physics, | |
| CESR tour guide | 2002-2006 |
| Cornell University, Physics Teaching Assistant | 2001 |
| Knox College, Physics Teaching Assistant | 1999-2001 |
| Knox College, Physics grader | 1998 |

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## Computer and Laboratory Skills:

Programming Languages: MATLAB, Fortran, C/C++, LaTeX, Shell Script

Operating Systems: Linux, Unix, VMS, Mac OS X, MS Windows

Scientific Software: MATLAB, TAO(co-author), BMAD, SixTrack, Mathematica, Maple, GnuPlot, MAD8, MAD-X, Physica, LabView, MAFIA, Elegant

Other Software: JIRA Issue Tracking, SVN/CVS, Git, Omnigraffle, Totalview, Adobe Illustrator, Gimp, vim

Scientific Equipment: Oscilloscope, Vector Network Analyzer, Spectrum Analyzer, multimeters, basic circuit analysis, National Instruments test equipment and other laboratory equipment

Machine shop: lathe, milling machine, gear hobber, drill press, etc...

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## Presented Works:

### Primary Publications (First Author or Significant Contribution):

J. C. Smith, *et. al.*, "Finding Optimal Apertures in Kepler Data," submitted to Publications of the Astronomical Society of the Pacific, Jan. 2016.

M. C. Stumpe *et al.*, "Multiscale Systematic Error Correction via Wavelet-Based Bandsplitting in Kepler Data", Publications of the Astronomical Society of the Pacific, **126** No. 935: pp. 100-114 January (2014)

J. C. Smith *et al.*, "Kepler Presearch Data Conditioning II - A Bayesian Approach to Systematic Error Correction," Publications of the Astronomical Society of the Pacific, **124** pp. 1000-1014 September (2012)

M. C. Stumpe *et al.*, "Kepler Presearch Data Conditioning I - Architecture and Algorithms for Error Correction in Kepler Light Curves," Publications of the Astronomical Society of the Pacific, **124** pp.985-999 September (2012)

J. M. Jenkins, *et al.*. "Planet Detection: The Kepler Mission", in "Advances in Machine Learning and Data Mining for Astronomy", pp. 355381. Chapman and Hall, CRC Press, 2012.

J. C. Smith, *et al.*, "Science Algorithms for Presearch Data Conditioning - Bayesian Maximum A Posteriori (MAP) Cotrending Method", Kepler Design Note KADN-26300

J. C. Smith *et al.*, "Prototype Testing for a Copper Rotatable Collimator for the LHC Collimation Upgrade," SLAC-TN-08-004 (2008)

J. C. Smith,"The Preservation of Emittance and Polarization in the International Linear Collider," Ph.D. Thesis, Cornell University (May 2007)

J. C. Smith, "Depolarization Studies in the International Linear Collider," ILC-NOTE-2007-012 (2007)

J. C. Smith, "Coupling Correction in the ILC Ring to Main Linac," ILC-NOTE-2007-006 (2007)

J. C. Smith *et al.*, "Benchmarking/Crosschecking DFS in the ILC Main Linac," SLAC-TN-06-035, FERMILAB-TM-2373-CD (2007)

D. Sagan and J. C. Smith, "The TAO Manual," Included with the BMAD software distribution, `http://www.classe.cornell.edu/ dcs/bmad/`

J. C. Smith, "The Physics of the ILC Main Linac Emittance Dilution," Cornell Technical Report (2005)

J. C. Smith, "The Kink Instability in the ILC," Cornell Technical Report (2005)

J. C. Smith, "The Physics of the ILC," Cornell Technical Report, (2005)

J. C. Smith, "Design and Construction of a Fixed-Frequency Cyclotron," Undergraduate Thesis, Knox College (2001)

J. C. Smith, "CESR Beam Position Monitors Signal Processing and Synchrotron +24 V Elimination Scheme," Cornell Research Experience for Undergraduates Report (1999)

SECONDARY CONTRIBUTION PUBLICATIONS:

J. Twicken, *et al.*, "Detection of Potential Transit Signals in 17 Quarters of Kepler Data: Results of the Final Kepler Mission Transiting Planet Search (DR25)," Submitted to ApJ (2016)

J. Coughlin, *et al.*, "Planetary Candidates Observed by Kepler. VII. The First Fully Uniform Catalog Based on The Entire 48 Month Dataset (Q1-Q17 DR24)," accepted to ApJS Feb. 15, (2016)

J. Van Cleve, *et al.*, "That's How We Roll: The NASA K2 Mission Science Products and Their Performance Metrics," Accepted Publications of the Astronomical Society of the Pacific, # pp. # Month (2016)

F. Mullaly, *et al.*, "Planetary Candidates Observed by Kepler. VI. Planet Sample from Q1–Q16 (47 Months)", ApJS, **217 2 31**, pp. 16 (2015)

J. Rowe, *et al.*, "Planetary Candidates Observed by Kepler. V. Planet Sample from Q1Q12 (36 Months)", ApJS, **217 1 16**, pp. 22 (2015)

J. L. Christiansen, *et al.*, "Measuring Transit Signal Recovery in the Kepler Pipeline II: Detection Efficiency as Calculated in One Year of Data," The Astrophysical Journal, **810 2 95**, pp. 11 (2015)

S. Seader, *et al.*, "Detection of Potential Transit Signals in 17 Quarters of Kepler Data," Astrophysical Journal Supplement, **217, 18** (2015)

R. Gilliland, *et al.*, "Kepler Mission Stellar and Instrument Noise Properties Revisitied", the Astronomical Journal, **150, 133** (2015)

P. Tenenbaum, *et al.*, "Detection of Potential Transit Signals in Sixteen Quarters of Kepler Mission Data", Astrophysical Journal, 211, 6 (2014)

A. Mazumdar, *et al.*, "Measurement of Acoustic Glitches in Solar-Type Stars from Oscillation Frequencies observed by Kepler", Astrophysical Journal, 782, 18, (2014)

J. Christiansen, *et al.*, "Measuring Transit Signal Recovery in the Kepler Pipeline I: Individual Events", Astrophysical Journal, **207**, 35, 2013

T. Barclay, *et al.*, "A super-Earth-sized planet orbiting in or near the habitable zone around Sun-like star", Astrophysical Journal **768**, 101 (2013)

T. Barclay, *et al.*, "A sub-Mercury-sized exoplanet in a three planet system orbiting Kepler-37", Nature, **494** 452-454 (2013)

P. Tenenbaum, *et al.*, "Detection of Potential Transit Signals in the First Twelve Quarters of kepler Mission Data", Astrophysical Journal, 206, 5, 2013

E. Quintana, *et al.*, "Confirmation of Hot-Jupiter Kepler-41b via Phase Curve Analysis," Astrophysical Journal, **767** 137 (2013)

P. Lampens, *et al.*, "Low-frequency variations of unknown origin in the Kepler $\sigma$ Scuti star KIC 5988140 = HD 188774", AAP, **549**:A104, (January 2013).

N. M. Batalha, *et al.*, "Planetary Candidates Observed by Kepler III: Analysis of the First 16 Months of Data," The Astrophysical Journal Suppl. **204** 2 2013

J. H. Telting, *et al.*, "Three ways to solve the orbit of KIC 11 558 725: a 10-day beaming sdB+WD binary with a pulsating subdwarf," Astronomy & Astrophysics Vol. 544 (August 2012), 544, A1

A. Derekas, *et al.*, "Period and light curve fluctuations of the Kepler Cepheid V1154 Cyg", Monthly Notices of the Royal Astronomical Society Main Journal, MN-11-2740-MJ.R3 (2012)

P. Tenenbaum, "Detection of Potential Transit Signals in the First Three Quarters of Kepler Mission Data," Astrophysical Journal, 199, 24 (2012)

T. Gautier, *et al.*, "Kepler-20: A Sun-like Star with Three Sub-Neptune Exoplanets and Two Earth-size Candidates," Astrophysical Journal, 749, 15 (2012)

A. Howard, *et al.*, "Planet Occurrence Within 0.25 AU of Solar-Type Stars from Kepler," The Astrophysical Journal, The Astrophysical Journal Suppl. **201** 15 2012

J. L. Christiansen, *et al.*, "The Derivation, Properties and Value of Keplers Combined Differential Photometric Precision"Submitted to the Publications of the Astronomical Society of the Pacific, (2012)

A. Shporer, *et al.*, "Detection of KOI-13.01 with Orbital Photometry," The Astronomical Journal, **142** 6 2011

D. Huber, *et al.*, "Testing Scaling Relations for Solar-Like Oscillations from the Main-Sequence to Red Giants using Kepler Data," The Astrophysical Journal, **743** 2 2011

L. A. Balona, *et al.*, "The Kepler view of Doradus stars", Monthly Notices of the Royal Astronomical Society Main Journal, MN-11-0636-MJ.R1, **415**, pp. 3531-3538, 2011

R. A. Garcia, *et al.*, "Preparation of Kepler Lightcurves for Asteroseismic Analyses," Monthly Notices of the Royal Astronomical Society Letters, MN-11-0159-L.R1 **414** 1 2011

S. Basu, *et al.*, "Sounding Open Clusters: Asteroseismic Constraints from Kepler on the Properties of NGC 6791 and NGC 6819," The Astrophysical Journal Letters, **729** 1 2011

CONFERENCE PROCEEDINGS:

"K2 Data Mission Products", IAU General Assembly, Meeting #29, FM8p.87, Honolulu, HI (2015)

J. C. Smith *et al.*, "Finding Every Planet We Can – Improving the Optimal Apertures in Kepler Data" Towards Other Earths II, The Star Planet Connection, P5.3, Porto, Portugal (2014)

J. C. Smith *et al.*, "Finding Every Planet We Can – Removal of Transit-like False Triggers in Kepler Data." American Astronomical Society 224th Meeting, 120, Boston, USA (2014)

J. C. Smith *et al.*, "Removing the Noise and Systematics While Preserving the Signal – An Empirical Bayesian Approach to Kepler Light Curve Systematic Error Correction," American Astronomical Society 220th Meeting, 330.03, Anchorage, USA (2012)

J. C. Smith *et al.*, "Application of an Empirical Bayesian Technique to Systematic Error Correction and Data Conditioning of Kepler Photometry," American Astronomical Society 218th Meeting, 227.07, Boston, USA (2011)

J. C. Smith *et al.*, "Recent Progress on the Design of a Rotatable Copper Collimator for the LHC Collimation Upgrade," US Particle Accelerator Conference, PAC-2009-WE6RFP030 (2009)

J. C. Smith *et al.*, "Prospects for Integrating a Hollow Electron Lens into the LHC Collimation System," US Particle Accelerator Conference, PAC-2009-WE6RFP031 (2009)

L. Xiao *et al.*, "Trapped Mode Study for a Rotatable Collimator Design for the LHC Upgrade," US Particle Accelerator Conference, PAC-2009-TH5PFP089 (2009)

J. C. Smith *et al.*, "Design of a Rotatable Copper Collimator for the LHC Phase II Collimation Upgrade," European Particle Accelerator Conference, EPAC-2008-MOPC096 (2008)

J. C. Smith *et al.*, "Bench-top Impedance Measurements for a Rotatable Copper Collimator for the LHC Phase II Collimation Upgrade," European Particle Accelerator Conference, EPAC-2008-TUPP073 (2008)

J. C. Smith *et al.*, "Mechanical and thermal Prototype Testing for a Rotatable Collimator for the LHC Phase II Collimation Upgrade," European Particle Accelerator Conference, EPAC-2008-MOPC095 (2008)

J. C. Smith, "Spin Transport in the International Linear Collider," US Particle Accelerator Conference, PAC-2007-WEOAAB01 (2007)

J. C. Smith *et al.*, "Comparison of Tracking Codes for the International linear Collider," US Particle Accelerator Conference, PAC-2007-THPMS013 (2007)

P. Tenenbaum *et al.*, "Emittance Preservation in the International Linear Collider Ring To Main Linac," US Particle Accelerator Conference, PAC-2007-THPMS056 (2007)

J. C. Smith *et al.*, "Comparison of beam-based alignment algorithms for the ILC," US Particle Accelerator Conference, PAC-2005-RPPP024 (2005)

M.A. Palmer *et al.*, "Design and operation of a radiative Bhabha luminosity monitor for CESR-c," US Particle Accelerator Conference, PAC-2005-RPAT062 (2005)

D. Sagan and J. C. Smith, "The TAO accelerator simulation program," US Particle Accelerator Conference, PAC-2005-FPAT085 (2005)

J. C. Smith, "Diagnosis of Optical Errors with a Precision BPM System at CESR," US Particle Accelerator Conference, PAC-2003-WPAG004 (2003)

WORKSHOPS AND MEETINGS:

"K2 Data Mission Products", Kepler Asteroseismic Consortium KASC 8 meeting, Aarhus, Denmark (2015)

"Improvements to the Presearch Data Conditioning Component of the Kepler Pipeline" Kepler Science Conference II, NASA Ames Research Center (2013)

"The Preservation of Stellar Signals in Kepler Pipeline Processed Data" Kepler Science Conference II, NASA Ames Research Center (2013)

"Removing the Noise and Systematics While Preserving the Signal – An Empirical Bayesian Approach to Kepler Light Curve Systematic Error Correction" Kepler Science Conference, NASA Ames Research Center (2011)

"LARP Rotatable Collimator Status," Plenary Talk, 13th LARP Collaboration Meeting, Port Jefferson, NY, USA (2009)

"LHC Status and Upgrade Challenges," California American Physical Society Annual Meeting, Naval Postgraduate School, Monterey, CA (2009)

"Hollow e-Beam Lens for LHC Scraping," 12th LARP Collaboration Meeting, Napa, CA, USA (2009)

"Hollow e-Beam Lens for LHC Scraping," LHC Collimation Phase II Conceptual Design Review, CERN, Geneva, Switzerland (2009)

"Status of Rotatable Collimator Prototype Design and Construction," 10th LARP Collaboration Meeting, Port Jefferson, NY USA (2008)

"Status and Plans for RTML LET studies at SLAC," ILC ALCPG, Fermilab USA (2007)

"Status of Rotatable Collimator Prototype design and Construction," 9th LARP Collaboration Meeting, SLAC USA (2007)

"RTML Tuning," European Linear Collider Workshop, Daresbury, UK (2007)

"Benchmarking/Crosschecking DFS in the ILC Main Linac," European Linear Collider Workshop, Daresbury, UK (2007)

"RTML LET in ILCv," Vancouver Linear Collider Workshop, UBC Canada (2006)

"Main Linac Emittance Preservation," Vancouver Linear Collider Workshop, UBC Canada (2006)

"ILC Spin Rotator," Super-B Factory Workshop III, SLAC USA (2006)

"Benchmarking DFS," CERN ILC LET meeting, CERN (2006)

"Spin Tracking in BMAD," CERN ILC LET meeting, CERN (2006)

"Issues with ILC Static Alignment," Snowmass '05, CO, USA, ILCAW0111 (2005)

"The TAO Program," Victoria Linear Collider Workshop, Victoria, Canada (2004)

## INVITED TALKS:

"The Preservation of Stellar Signals in Kepler Pipeline Processed Data", Kepler Asteroseismic Science Consortium, meeting 6, Sydney, Australia, 2013

"Kepler: Are There Any Good Worlds Out There?," Knox College Homecoming Physics Alumni Talk (2010)

"Upgrade Schemes for the LHC Collimation System Including a Metallic Rotatable Collimator and a Hollow Electron Lens," SLAC ARD R&D Status Meeting (2009)

"LARP Phase II Collimator Engineering Status," CERN Phase II Design Meeting, CERN (2008)

"Design of a Rotatable Copper Collimator for the LHC Phase II Collimation Upgrade," Postdoc Accelerator Research Seminar, SLAC (2008)

"From the Damping Ring to the IP: Emittance Preservation in the ILC," Postdoc Accelerator Research Seminar, SLAC (2007)

"From the Damping Ring to the IP: Emittance and Polarization Preservation in the ILC," LBL CBP Seminar (2007)

"From the Ring to the Main Linac: Preparing the Beam for Acceleration in the International Linear Collider," SLAC Accelerator Physics Seminar (2007)

"ILC Main Linac Emittance Preservation," Vancouver Linear Collider Workshop Plenary Talk (2006)

"ILC Emittance and Polarization Preservation," NSF Site Review, Cornell LEPP (2006)

"ILC Accelerator Physics R&D at Cornell," Cornell LEPP Brown Bag Seminar (2005)

"Prospects for using Model Independent Analysis to measure twiss parameters in CESR," Cornell LEPP Brown Bag Seminar (2004)

"CESR Fast Luminosity Monitor Prototype Performance", External Design Review for Fast luminosity Monitor, Cornell (2004)

"New IR Diagnostic Tools for the CESR Ring," Cornell LEPP Brown Bag Seminar (2003)