

# TEREASA G. BRAINERD

## Curriculum Vitae

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Boston University  
Department of Astronomy  
725 Commonwealth Avenue  
Boston, MA 02215

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<http://people.bu.edu/brainerd/>

### EDUCATION

- 1992 The Ohio State University, Columbus, OH (USA)  
Ph.D. in Astronomy  
Dissertation: *A Study of Properties of Dark Galaxy Halos in a CDM Universe using N-body Simulations*  
Advisor: Jens Verner Villumsen
- 1987 University of Alberta, Edmonton, AB (Canada)  
BSc Honours, Physics

### PROFESSIONAL APPOINTMENTS

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|--|-------------------|
| Associate Professor of Astronomy, Boston University              | 09/2001 – present |
| Assistant Professor of Astronomy, Boston University              | 09/1995 – 08/2001 |
| Postdoctoral Research Associate, Los Alamos National Laboratory  | 09/1994 – 08/1995 |
| Postdoctoral Research Fellow, California Institute of Technology | 09/1992 – 08/1994 |

### RESEARCH AREAS

Satellite galaxies as probes of dark matter halos, weak gravitational lensing, intrinsic alignments of galaxies, clustering of distant field galaxies, numerical simulations of structure formation.

### ACADEMIC LEADERSHIP TRAINING

- 2014 HERS Institute at Bryn Mawr College, Bryn Mawr, PA (USA)

### HONORS

- Templeton Prize for Excellence in Student Advising 2014  
Boston University College of Arts & Sciences

### ACADEMIC LEADERSHIP POSITIONS

- Chair, Boston University Department of Astronomy** 07/2011 – 06/2015, 07/2016 – 06/2018  
Oversaw all aspects of the academic mission. Leader of the 2016-2017 independent, external Academic Program Review of the Department of Astronomy, including compilation of a comprehensive departmental self study document for BU's Office of the Provost. Organizer and primary departmental contact for the 2015 Climate Site Visit by the AAS Committee on the Status of Women in

Astronomy. Leader of the 2014 Revised Strategic Planning Exercise for Astronomy and the 2014 Educational Learning Outcomes and Assessment Exercise. Oversight of four Astronomy faculty promotion and tenure cases, and one promotion-only case. Active mentor of junior faculty to insure professional development as outstanding teachers and researchers. Supervised and interacted daily with the department administrator, two IT professionals, the observatory manager, and the Assistant Director of the Center for Space Physics. Primary liaison with Lowell Observatory in conjunction with the operation of the Perkins Telescope and the Discovery Channel Telescope (DCT) in Arizona. Together with the Associate Dean for Research, negotiated the final legal agreement between BU and Lowell Observatory for BU's \$10M investment in the DCT in 2011. Negotiated the development of an Astronomy MOOC ("Alien Worlds") as one of the first web-based courses offered by BU through edX. Managed multiple departmental budgets (College funds, overhead return funds, gift funds) totalling \$2.4M annually.

**Associate Chair, Boston University Department of Astronomy** 07/2010 – 06/2011

Provided support for the academic mission of the department when the Chair was out of town. Assisted with the annual academic planning exercise, including teaching assignments and class scheduling, by providing advice to the Chair and department administrator.

**Director, BU Institute for Astrophysical Research (IAR)** 07/2005 – 06/2011

Worked for 6 years, in collaboration with the Chair, to develop a case, consistent with the University strategic plan, for BU to invest \$10M in the Discovery Channel Telescope. Oversaw two external reviews of the health and vigor of the IAR, with strongly positive outcomes. Negotiated Memorandum of Understanding between BU and Lowell Observatory that provided BU astronomers access to the Perkins Telescope in Arizona from 2008 to 2013. Provided critical leadership during BU's 2010 internal review of research centers and institutes. Approved grant proposals submitted by eligible personnel (faculty, senior research scientists). Supervised one full-time fiscal administrator. Managed an annual budget of \$125k, generated from overhead return on research grants.

## PROFESSIONAL ORGANIZATIONS

Member, American Astronomical Society 1990 – present  
Trustee-at-Large, American Astronomical Society 2018 – 2021

## SCIENTIFIC HONOR SOCIETIES

Full Member (Elected), Sigma Xi 2020 – present

## REVIEWS AND PUBLICATIONS

<b>Editorial Board</b> ISRN Astronomy & Astrophysics	2010 – 2014
<b>Publications Board</b> Astronomical Society of the Pacific	2001 – 2003
<b>Manuscript Reviewer</b> The Astrophysical Journal (Parts I and II), Astronomy & Astrophysics, The Astronomical Journal, Monthly Notices of the Royal Astronomical Society, ISRN Astronomy & Astrophysics, American Journal of Physics	1991 – present
<b>Proposal Reviewer</b> National Science Foundation, NASA, Space Telescope Science Institute, Research Corporation, Canada Council of the Arts, NSERC (Canada), PPARC (United Kingdom), Deutsche Forschungsgemeinschaft (Germany), Academy of Finland, Netherlands Organization for Scientific Research	2001 – present

## MEETING ORGANIZATION

<b>Local Organizer and Host</b> American Astronomical Society Town Hall Meeting Boston University, Boston, MA	2010
<b>Member, Local Organizing Committee</b> Conference: <i>Milky Way Surveys: The Structure and Evolution of our Galaxy</i> Boston University, Boston, MA	2003
<b>Member, Scientific Organizing Committee</b> National Academy of Sciences, <i>11th Annual Frontiers of Science Symposium</i> Irvine, CA	1999
<b>Chair, Local Organizing Committee</b> <b>Co-Chair, Scientific Organizing Committee</b> Conference: <i>Gravitational Lensing: Recent Progress &amp; Future Goals</i> Boston University, Boston, MA	1999

## ADDITIONAL EXTERNAL SERVICE

<b>Trustee-at-Large</b> American Astronomical Society	2018 – 2021
<b>Appointments Committee</b> American Astronomical Society	2018 – 2021
<b>Ethics Review Task Force Splinter Group</b> American Astronomical Society	2018 – 2021
<b>Audit &amp; Finance Committee</b> American Astronomical Society	2019 – 2021

<b>Inclusive Graduate Education Network (IGEN) Working Group</b> American Astronomical Society	2019 – 2021
<b>Board Liaison, Working Group on Time Domain Astronomy</b> American Astronomical Society	2018 – 2020
<b>Board Liaison, Education Committee</b> American Astronomical Society	2018 – 2020
<b>Board Liaison, Laboratory Astrophysics Division</b> American Astronomical Society	2020 – 2021
<b>Board Liaison, Working Group on Astroinformatics &amp; Astrostatistics</b> American Astronomical Society	2020 – 2021
<b>Heinemann Prize Committee</b> American Astronomical Society	2005 – 2007
<b>External Examiner for International PhD Dissertations</b>	
Isaac Spitzer, University of Waterloo (Canada)	2022
Arun Kumar Yadav, Indian Institute of Technology (India)	2021
Bryan Gillis, University of Waterloo (Canada)	2013
Catherine Trott, University of Melbourne (Australia)	2005
Christofer Gunnarsson, Stockholm University (Sweden)	2005
Andreas Ortman Jaunsen, University of Oslo (Norway)	2000

## **BOSTON UNIVERSITY SERVICE**

<b>Academic Policy Committee (APC)</b>	2020 – 2023
<b>APC Chair</b> College of Arts & Sciences	2021 – 2022
<b>BU Astronomical Observatories Advisory Committee</b> Department of Astronomy	2019 – present
<b>Graduate Admissions Committee</b> Department of Astronomy	2011 – 2013, 2020 – 2021
<b>Promotion and Tenure Committee</b> College of Arts & Sciences	2008 - 2009
<b>Perkins Telescope Time Allocation Committee</b> Department of Astronomy	2004 – 2008
<b>CRC Investigators' Conflict of Interest Committee</b> Office of the Provost	2004 – 2007
<b>Interim Director of Graduate Studies</b> Department of Astronomy	2006 – 2007
<b>Chair, PhD Written Qualifying Examination Committee</b> Department of Astronomy	2003 – 2010
<b>Director of Graduate Studies</b> Department of Astronomy	2003 – 2005

<b>Faculty Council</b> Boston University	2002 – 2003
<b>Natural Sciences Curriculum Committee</b> College of Arts & Sciences	2000 – 2001
<b>Director of Undergraduate Studies</b> Department of Astronomy	1999 – 2000
<b>Summer Undergraduate Freshman Academic Advisor</b> College of Arts & Sciences	1998 – 2011, 2013–2015
<b>Director of Graduate Admissions</b> Department of Astronomy	1995 – 1999

### COMMUNITY SERVICE

<b>Advisory Board</b> Science for the Public <a href="http://www.scienceforthepublic.org">http://www.scienceforthepublic.org</a>	2010 – 2014
<b>The International Feline Foundation Veterinary Grant Proposal Review Panel</b> <a href="http://www.theinternationalfelinefoundation.com">http://www.theinternationalfelinefoundation.com</a>	
Chair of the Review Panel	2010, 2012
Co-Chair of the Review Panel	2008, 2009

Funded Grants as Principal Investigator  
Total Federal Funding as of November 2021: **\$1.7M**

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**Agency:** NSF (Astronomy & Astrophysics)  
**Title:** Satellite Galaxies as Probes of Non-Linear Structure in the Local Universe  
**Funding Period:** 08/01/2020 – 07/31/2023  
**Total Funding:** \$335,395

**Agency:** NASA (Astrophysics Theory)  
**Title:** Theoretical Studies of Weak Gravitational Lensing  
**Funding Period:** 02/15/2013 – 02/15/2018  
**Total Funding:** \$297,225

**Agency:** NSF (Astronomy & Astrophysics)  
**Title:** Bright Field Galaxies and their Dark Matter Halos  
**Funding Period:** 08/01/2007 – 07/31/2011  
**Total Funding:** \$286,239

**Agency:** NSF (Women in Networks Program)  
**Title:** Locating Isolated Weak Galaxy Lenses in the Sloan Digital Sky Survey  
**Funding Period:** 07/01/2010 – 06/30/2011  
**Total Funding:** \$19,846

**Agency:** NSF (Astronomy & Astrophysics)  
**Title:** Dynamics of Satellite Galaxies  
**Funding Period:** 08/01/2004 – 07/31/2007  
**Total Funding:** \$118,969

**Agency:** NSF (Astronomy & Astrophysics)  
**Title:** Cosmological Applications of Gravitational Lensing  
**Funding Period:** 05/01/2001 – 04/30/2005  
**Total Funding:** \$242,736

**Agency:** NSF  
**Title:** Gravitational Lensing: Recent Progress and Future Goals (International Conference)  
**Funding Period:** 07/01/1999 – 06/30/2000  
**Total Funding:** \$14,996

**Agency:** NASA  
**Title:** Gravitational Lensing: Recent Progress and Future Goals (International Conference)  
**Funding Period:** 07/01/1999 – 06/30/2000  
**Total Funding:** \$13,996

**Agency:** Hubble Space Telescope Science Institute  
**Title:** Constraints on the Flattening of Dark Matter Halos from Galaxy-Galaxy Lensing  
**Funding Period:** 08/01/2000 – 08/31/2002  
**Total Funding:** \$53,377

**Agency:** Hubble Space Telescope Science Institute  
**Title:** The Interplay Between Stellar Evolution and Stellar Dynamics (Hubble Postdoctoral Fellowship for Dr. Simon Portegies-Zwart)  
**Funding Period:** 12/01/1998 – 11/30/2001  
**Total Funding:** \$137,609

**Agency:** NSF (Astronomy & Astrophysics)  
**Title:** Numerical Studies of Rich Clusters  
**Funding Period:** 05/01/1997 – 04/30/2001  
**Total Funding:** \$212,436

## HIGH SCHOOL STUDENT

Hila Tor (2021 Boston University RISE program)

## ASTRONOMY UNDERGRADUATE MAJORS

<sup>1</sup>David Goldberg (BA 1996, with Distinction<sup>†</sup>)

Lucas Boyle (BA 2000)

<sup>2</sup>Michael Specian (BA 2003, with Distinction<sup>†</sup>)

Kelly Denney (BA 2004, with Distinction<sup>†</sup>)

Nicholas McConnell (BA 2006)

Chad Madsen (BA 2009)

Nicholas Ferreri (BA 2012)

Trey Wenger (BA 2013)

Kelly Blumenthal (BA 2014)

Joseph Serigano (BA 2014)

Patrick Koh (BA 2016; research funded by BU Undergraduate Research Program)

<sup>3</sup>Masaya Yamamoto (BA 2019; research funded by BU Undergraduate Research Program)

Ayush Dhananjai (BA 2019; research funded by BU Undergraduate Research Program)

Katya Leidig (BA 2020; research funded by BU Undergraduate Research Program)

Mikhail Sharov (BA 2021)

Jeimin Garibnavajwala (BA 2021)

<sup>1</sup> work published in Brainerd, T. G., Goldberg, D. M. & J. V. Villumsen, 1998, ApJ, 502, 505

<sup>2</sup> work published in Brainerd, T. G. & Specian, M. A. 2003, ApJ, 593, L7

<sup>3</sup> work published in Brainerd, T. G. & Yamamoto, M. 2019, MNRAS, 489, 459

<sup>†</sup>The qualification “with Distinction” indicates that the student completed a substantial research project in the senior year, culminating in a written senior thesis that was defended in a formal oral examination.

## ASTRONOMY MA STUDENTS

Charles Paxson (MA 1998)

Casey Law (MA 2000)

## ASTRONOMY PHD STUDENTS

Candace Oaxaca Wright (PhD 2002)

Ingolfur Agustsson (PhD 2012)

Paul Howell (left PhD program after eighth year)

Laura Sturch (co-advised with Dr. Barry Madore at the Observatories of the Carnegie Institution Washington; left PhD program in fifth year)

Brandon Harrison (2015 AAS Chambliss Prize Winner; left PhD program after second year)

Marie Calapa (left PhD program in first year)



Isaac Lopez (left PhD program after third year)  
Bryanne McDonough (2018 – present)  
Olivia Curtis (2018 – present)  
Muhammad Mobeen (2018 – 2019)  
Adam Samuels (2019 – present)  
Aryan Bansal, exchange student from University of Padova (2021 – 2022)

### **SCIENCE AND RELIGION PHD STUDENTS\***

Jeffrey Edmonds (supervised in 2008; left program in 2010 with MA)  
Timothy Maness (supervised in 2013; PhD awarded in 2020)

\*Doctoral students enrolled in BU's Science and Religion program must demonstrate scientific competency by carrying out a semester or more of directed research with a faculty member in the Natural Sciences as part of their degree program. Each of these students specializes in a particular scientific discipline (e.g., biology, chemistry, etc.). The two students whom I supervised declared specialties in cosmology as part of their doctoral studies.

**LECTURE COURSES (4 credit hours each)**

CAS AS102: The Astronomical Universe (undergraduate non-science majors)

Fall 1995, 81 students, 1 teaching fellow

Fall 1997, 90 students, 1 teaching fellow

Spring 2010, 46 students, 4 honors students, 2 teaching fellows

CAS CC105: Core Curriculum Natural Sciences I (undergraduate non-science majors)

Fall 2003, 46 students

Fall 2005, 47 students

Fall 2007, 44 students

Fall 2009, 27 students

CAS AS109: Cosmology (undergraduate non-science majors)

Spring 1996, 39 students, 1 teaching fellow

Spring 1998, 65 students, 1 teaching fellow

Spring 1999, 92 students, 1 teaching fellow

Spring 2000, 69 students, 1 teaching fellow

Spring 2001, 83 students, 1 teaching fellow

Spring 2003, 46 students, 1 teaching fellow

Spring 2005, 67 students, 1 teaching fellow

Spring 2021, 72 students, 2 teaching fellows

CAS AS312: Stellar and Galactic Astronomy (sophomore Astronomy majors)

Spring 2006, 8 students

CAS AS413: Extragalactic Astronomy & Cosmology (junior and senior Astronomy majors)

Fall 1996, 21 students

Fall 1998, 23 students

Fall 2000, 19 students

Fall 2002, 28 students

Fall 2004, 20 students

Fall 2006, 18 students

Fall 2008, 17 students

Fall 2010, 14 students

Fall 2012, 19 students

Fall 2014, 13 students

Fall 2016, 18 students

Fall 2018, 27 students

Fall 2020, 18 students

GRS AS725: Gravitational Astrophysics (first and second year graduate students)

Fall 1999, 9 students

Spring 2004, 14 students

Spring 2008, 13 students

Spring 2012, 15 students  
Spring 2018, 12 students  
Spring 2020, 17 students

GRS AS759: Galaxies and Cosmology (advanced graduate students)

Spring 1997, 3 students  
Spring 2006, 9 students  
Spring 2009, 5 students

GRS AS759: Cosmology (advanced graduate students)

Fall 2013, 6 Students

### **GRADUATE SEMINARS (2 credit hours each)**

GRS AS699: Teaching College Astronomy (Graduate Teaching Fellow Training)

Fall 1995 (1 student)  
Spring 1996 (1 student)  
Fall 1997 (1 student)  
Spring 1998 (1 student)  
Spring 1999 (1 student)  
Spring 2000 (1 student)  
Spring 2001 (1 student)  
Spring 2003 (1 student)  
Spring 2005 (1 student)  
Spring 2010 (2 students)

GRS AS865: Space Physics Seminar

Fall 2021 (16 students)

### **DIRECTED RESEARCH COURSES (variable credit hours)**

CAS AS401: Senior Independent Work (Undergraduate Distinction/Honors in the Major)

Fall 1995, 4 credit hours: David Goldberg  
Fall 2002, 4 credit hours: Michael Specian  
Fall 2003, 4 credit hours: Kelly Denney  
Fall 2005, 4 credit hours: Nicholas McConnell  
Fall 2008, 4 credit hours: Chad Madsen  
Fall 2015, 4 credit hours: Patrick Koh

CAS AS402: Senior Independent Work (Undergraduate Distinction/Honors in the Major)

Spring 1996, 4 credit hours: David Goldberg  
Spring 2003, 4 credit hours: Michael Specian  
Spring 2004, 4 credit hours: Kelly Denney  
Spring 2006, 4 credit hours: Nicholas McConnell  
Spring 2009, 4 credit hours: Chad Madsen  
Spring 2016, 4 credit hours: Patrick Koh

CAS AS491: Research in Astronomy (Undergraduate Level)

Fall 1999, 2 credit hours: Lucas Boyle

Fall 2011, 4 credit hours: Nicholas Ferreri

Fall 2013, 4 credit hours: Kelly Blumenthal

Fall 2013, 4 credit hours: Joseph Serigano

CAS AS492: Research in Astronomy (Undergraduate Level)

Spring 2014, 4 credit hours: Kelly Blumenthal

Spring 2014, 4 credit hours: Joseph Serigano

GRS AS901: Research in Astronomy (Graduate Level)

Fall 1996, 4 credit hours: Candace Wright

Fall 1997, 4 credit hours: Candace Wright

Fall 1998, 4 credit hours: Candace Wright

Fall 2003, 4 credit hours: Paul Howell

Fall 2004, 4 credit hours: Ingolfur Agustsson

Fall 2021, 4 credit hours: Bryanne McDonough

GRS AS902: Research in Astronomy (Graduate Level)

Spring 1996, 4 credit hours: Charles Paxson

Spring 1997, 4 credit hours: Shantanu Desai

Spring 1998, 4 credit hours: Candace Wright

Spring 1999, 3 credit hours: Casey Law

Spring 2004, 4 credit hours: Paul Howell

Spring 2005, 4 credit hours: Ingolfur Agustsson

Spring 2012, 4 credit hours: Laura Sturch

GRS AS911: Directed Study in Astronomy (Graduate Level)

Fall 1996, 4 credit hours: Shantanu Desai

Fall 1996, 4 credit hours: Candace Wright

Fall 2004, 4 credit hours: Paul Howell

Fall 2005, 4 credit hours: Ingolfur Agustsson

Fall 2012, 4 credit hours: Laura Sturch

Fall 2018, 4 credit hours: Isaac Lopez

Fall 2020, 4 credit hours: Bryanne McDonough

Fall 2020, 4 credit hours: Olivia Curtis

Fall 2021, 4 credit hours: Aryan Bansal (exchange student from University of Padova)

Fall 2021, 4 credit hours: Olivia Curtis

Fall 2021, 4 credit hours: Adam Samuels

GRS AS912: Directed Study in Astronomy (Graduate Level)

Spring 2005, 4 credit hours: Paul Howell

Spring 2006, 4 credit hours: Ingolfur Agustsson

Spring 2021, 4 credit hours: Olivia Curtis

## EDITED BOOKS

D. Clemens, R. Shah, & T. Brainerd (eds.), *Milky Way Surveys: The Structure and Evolution of our Galaxy*, ASP Conference Series, Vol. 317 (2004)

T. G. Brainerd & C. S. Kochanek (eds.), *Gravitational Lensing: Recent Progress and Future Goals*, ASP Conference Series, Vol. 237 (2001)

J. Scott, C. Mansperger, T. Brainerd, & P. Saizar (eds.), *Sample Examination Questions for Introductory Astronomy Courses (2nd Edition)*, Bellwether Press (1988)

## AUTHORED BOOK CHAPTERS

T. G. Brainerd, “Constraints on Field Galaxy Halos from Weak Lensing and Satellite Dynamics”, invited comprehensive review in *The New Cosmology*, AIP Conference Proceedings 743, eds. R. E. Allen, D. V. Nanopoulos & C. N. Pope, New York: American Institute of Physics, pp. 129-156 (2004)

T. G. Brainerd & R. D. Blandford, “Gravitational Optics Studies of Dark Matter Halos”, invited comprehensive review in *Gravitational Lensing: an Astrophysical Tool*, Lecture Notes in Physics Vol. 608, eds. F. Courbin & D. Minniti, pp. 96-123 (2002)

## PEER REVIEWED JOURNAL ARTICLES

**Boldface Author** below indicates student supervised

**A. Samuels** & T. G. Brainerd, “Lopsided Satellite Distributions in Mock Redshift Light Cones”, in preparation

T. G. Brainerd, **B. McDonough**, & **A. Samuels**, “Effects of Galaxy Formation Models on the K-band Luminosity Functions of Field and Cluster Galaxies”, in preparation

**B. McDonough** & T. G. Brainerd, “The Distribution of Satellite Galaxies in the Illustris-1 Simulation”, submitted to ApJ

**O. Curtis**, T. G. Brainerd & A. Hernandez, “Cosmic Voids in GAN-Generated Maps of Large-Scale Structure”, submitted to *Astronomy & Computing*

T. G. Brainerd & **A. Samuels**, “Lopsided Satellite Distributions around Isolated Host Galaxies”, ApJL, 898, L15 (2020)

T. G. Brainerd & **M. Yamamoto**, “Satellite galaxies in the Illustris-1 simulation: anisotropic locations around relatively isolated hosts”, MNRAS, 489, 459 (2019)

T. G. Brainerd, “Satellite Galaxies in the Illustris-1 Simulation: Poor Tracers of the Mass Distribution”, ApJL, 868, L9 (2018)

**I. Agustsson** & T. G. Brainerd, “The Spatial Distribution of Satellite Galaxies Selected from Redshift Space”, ApJ, 862, 169 (2018)

- I. Agustsson** & T. G. Brainerd, “Locations of Satellite Galaxies in the Two-Degree Field Galaxy Redshift Survey”, *ISRN Astronomy & Astrophysics*, doi:10.5402/2011/958973 (2011)
- T. G. Brainerd, “How are Bright Galaxies Embedded within their Dark Matter Halos?”, *Astronomical Review*, 6.8, 43 (2011)
- P. J. Howell** & T. G. Brainerd, “Galaxy-Galaxy Lensing by Non-Spherical Haloes I: Theoretical Considerations”, *MNRAS*, 407, 91 (2010)
- T. G. Brainerd, “Multiple Weak Deflections in Galaxy-Galaxy Lensing”, *ApJ*, 713, 603 (2010)
- I. Agustsson** & T. G. Brainerd, “Anisotropic Locations of Satellite Galaxies: Clues to the Orientations of Galaxies within their Dark Matter Halos”, *ApJ*, 709, 1321 (2010)
- I. Agustsson** & T. G. Brainerd, “The Locations of Satellite Galaxies in a CDM Universe”, *ApJ*, 650, 550 (2006)
- I. Agustsson** & T. G. Brainerd, “The Orientation of Satellite Galaxies: Evidence of Elongation in the Direction of the Host”, *ApJ*, 644, L25 (2006)
- T. G. Brainerd, “Anisotropic Distribution of SDSS Satellite Galaxies: Planar (not Polar) Alignment”, *ApJ*, 628, L101 (2005)
- T. G. Brainerd & **M. A. Specian**, “Mass-to-Light Ratios of 2dF Galaxies”, *ApJ*, 593, L7 (2003)
- C. O. Wright** & T. G. Brainerd, “Gravitational Lensing by NFW Halos”, *ApJ*, 534, 34 (2000)
- T. G. Brainerd, **C. O. Wright**, **D. M. Goldberg**, & J. V. Villumsen, “A Comparison of Simple Mass Estimators for Galaxy Clusters”, *ApJ*, 524, 9 (1999)
- T. G. Brainerd, **D. M. Goldberg** & J. V. Villumsen, “High-Resolution Simulations of Cluster Formation”, *ApJ*, 502, 505 (1998)
- T. G. Brainerd & I. Smail, “A Constant Clustering Amplitude for Faint Galaxies?”, *ApJ*, 494, L137 (1998)
- T. G. Brainerd, R. D. Blandford, & I. Smail, “Weak Gravitational Lensing by Galaxies”, *ApJ*, 466, 623 (1996)
- T. G. Brainerd, B. C. Bromley, M. S. Warren, & W. H. Zurek, “Velocity Dispersion and the Redshift Space Power Spectrum”, *ApJ*, 464, L103 (1996)
- T. G. Brainerd, I. Smail, & J. R. Mould, “Evolution in the Clustering of Galaxies to  $r=26$ ”, *MNRAS*, 275, 781 (1995)
- T. G. Brainerd & J. V. Villumsen, “On the Peculiar Velocity Field in a CDM Universe”, *ApJ*, 436, 528 (1994)
- J. R. Mould, R. D. Blandford, J. V. Villumsen, T. G. Brainerd, I. Smail, T. A. Small, & W. Kells, “A Search for Weak Distortion of Distant Galaxy Images by Large-Scale Structure”, *MNRAS*, 271, 31 (1994)
- T. G. Brainerd & J. V. Villumsen, “On the Evolution of Clustering and the Biased Galaxy Formation Scenario”, *ApJ*, 431, 477 (1994)
- T. G. Brainerd & J. V. Villumsen, “The Power Spectra of Dark Halos in a CDM Universe”, *ApJ*, 425, 403 (1994)

- T. G. Brainerd, R. J. Scherrer, & J. V. Villumsen, “Linear Evolution of the Gravitational Potential: A New Approximation for the Nonlinear Evolution of Large-Scale Structure”, *ApJ*, 418, 570 (1993)
- T. G. Brainerd & J. V. Villumsen, “The Redshift Space Power Spectrum of Galaxies in a CDM Universe”, *ApJ*, 415, L67 (1993)
- T. G. Brainerd & J. V. Villumsen, “The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe”, *ApJ*, 400, 398 (1992)
- T. G. Brainerd & J. V. Villumsen, “The Mass Function of Dark Galaxy Halos in a Cold Dark Matter Universe”, *ApJ*, 394, 409 (1992)
- R. D. Blandford, A. B. Saust, T. G. Brainerd, & J. V. Villumsen, “The Distortion of Distant Galaxy Images by Large-Scale Structure”, *MNRAS*, 251, 600 (1991)

## EDITOR-MODERATED SHORT ARTICLES

**Boldface Author** below indicates student supervised

- T. G. Brainerd, “K-band Luminosity Functions of IllustrisTNG300-1 Galaxies”, *RNAAS*, 5, 10, id.224 (2021)
- T. G. Brainerd & **A. Samuels**, “Mean Resultant Length as a Measure of the Lopsidedness of Satellite Galaxy Distributions”, *RNAAS*, 5, 3, id.57 (2021)
- O. Curtis** & T. G. Brainerd, “Fast Generation of Large-scale Structure Density Maps via Generative Adversarial Networks”, *RNAAS*, 4, 6, id.90 (2020)
- A. Samuels** & T. G. Brainerd, “Lopsided Satellite Distributions around Isolated Host Galaxies”, *RNAAS*, 4, 7, id.122 (2020)
- B. McDonough** & T. G. Brainerd, “Red Satellite Galaxies: The Best Tracers of Host-mass Distribution in the Illustris-TNG100 Simulations”, *RNAAS*, 4, 8, id.125 (2020)

## CONFERENCE PROCEEDINGS: INVITED PAPERS

- T. G. Brainerd, “The Effects of Multiple Weak Deflections in Galaxy-Galaxy Lensing”, in *The Impact of Gravitational Lensing on Cosmology*, proceedings of IAU Symposium 225, eds. Y. Mellier & G. Meylan, 255 (2005)
- T. G. Brainerd, “Galaxy-Galaxy Lensing: Status & Applications”, in *New Cosmological Data and the Values of the Fundamental Parameters*, proceedings of IAU Symposium 201, ASP Conference Series 201, eds. A. Lasenby & A. Wilkinson, 282 (2005)
- T. G. Brainerd, “Galaxy-Galaxy Lensing”, in *Gravitational Lensing: Recent Progress and Future Goals*, ASP Conference Series, Vol. 237, eds. T. G. Brainerd & C. S. Kochanek, 379 (2001)
- T. G. Brainerd, “Weak Gravitational Lensing in the Universe”, in *From Quantum Fluctuations to Cosmological Structures*, ASP Conference Series, Vol. 126, eds. D. Valls-Gabaud, M. A. Hendry, P. Molaro, & K. Chamcham, 479 (1997)
- T. G. Brainerd, B. C. Bromley, M. S. Warren, & W. H. Zurek, “Testing Theories of Structure Formation”, in *Clusters, Lensing & the Future of the Universe*, ASP Conference Series, Vol. 88, eds. V. Trimble & A. Reisenegger, 47 (1996)

## CONFERENCE PROCEEDINGS: CONTRIBUTED PAPERS

**Boldface Author** below indicates student supervised

T. G. Brainerd & **M. A. Specian**, “Mass-to-Light Ratios of Early- and Late-Type Galaxies”, in *Dark Matter in Galaxies*, proceedings of IAU Symposium 220, eds. S. D. Ryder, D. J. Pisano, M. A. Walker, & K. C. Freeman (ASP S-220), 145 (2004)

T. G. Brainerd, “Multiple Weak Lensing Deflections in the HDF (North)”, in *Hubble’s Science Legacy: Future Optical-UV Astronomy from Space*, ASP Conference Series, Vol. 291, eds. K. R. Sembach, J. C. Blades, G. D. Illingworth, & R. C. Kennicutt, 347 (2003)

T. G. Brainerd & **C. O. Wright**, “Constraining Galaxy Halo Shapes with Weak Lensing”, in *A New Era in Cosmology*, ASP Conference Series, Vol. 283, eds. N. Metcalfe & T. Shanks, 177 (2003)

T. G. Brainerd & **C. O. Wright**, “Detecting Flattened Halos with Weak Lensing”, in *Yale Cosmology Workshop: The Shapes of Galaxies and their Halos* (World Scientific), ed. P. Natarajan, 93 (2002)

**C. O. Wright** & T. G. Brainerd, “Constraining the Halo Flattening of Field Galaxy Lenses”, in *Gravitational Lensing: Recent Progress and Future Goals*, ASP Conference Series, Vol. 237, eds. T. G. Brainerd & C. S. Kochanek, 399 (2001)

T. G. Brainerd, **C. J. Law**, J. Brauher, S. G. Djorgovski, & K. Banas, “The Clustering of Faint Galaxies on Small Angular Scales”, in *The Hy-redshift Universe*, ASP Conference Series, Vol. 193, eds. A. Bunker & W. van Breughel, 411 (2000)

T. G. Brainerd, **D. M. Goldberg** & J. V. Villumsen, “High-Resolution Rich Cluster Simulations”, in *HST and the High-Redshift Universe*, proceedings of the 37th Herstmonceux Conference (World Scientific), eds. N. Tanvir, A. Aragon-Salamanca, & J. Wall, 221 (1997)

D. W. Hogg, R. D. Blandford, C. D. Fassnacht, T. Kundic, & T. G. Brainerd, “Gravitational Lensing in the Hubble Deep Field”, in *HST and the High-Redshift Universe*, proceedings of the 37th Herstmonceux Conference (World Scientific), eds. N. Tanvir, A. Aragon-Salamanca, & J. Wall, 267 (1997)

B. C. Bromley, T. G. Brainerd, M. S. Warren, W. H. Zurek, & P. J. Quinn, “On Cluster Cores and Power Spectra”, in the proceedings of the XXXth Rencontres de Moriond (Editions Frontieres), eds. S. Maurogordato, C. Balkowski, C. Tao, & J. Tran Thanh Van, 195 (1997)

B. C. Bromley, T. G. Brainerd, M. S. Warren, & W. H. Zurek, “Cosmic Structure on Small Scales: Results on Cluster Cores and Redshift-Space Power Spectra”, in *Mapping, Measuring, and Modeling the Universe*, ASP Conference Series, Vol. 94, eds. P. Coles, V. Martinez, & M.-J. Pons-Borderia, 107 (1996)

T. G. Brainerd, R. D. Blandford, & I. Smail, “Weak Lensing by Individual Galaxies”, in *Astrophysical Applications of Gravitational Lensing*, proceedings of IAU Symposium 173, eds. C. Kochanek & J. Hewitt, 183 (1996)

T. G. Brainerd, R. D. Blandford, & I. Smail, “Galaxy Halo Parameters from Weak Gravitational Lensing”, in *Clusters, Lensing & the Future of the Universe*, ASP Conference Series, Vol. 88, eds. V. Trimble & A. Reisenegger, 225 (1996)

T. G. Brainerd & J. V. Villumsen, “The Power Spectrum of Dark Matter Halos in a CDM Universe”, in *Dark Matter*, AIP Conference Series, Vol. 336, eds. S. S. Holt & C. L. Bennet, 407 (1995)



R. D. Blandford, T. G. Brainerd, J. R. Mould, T. A. Small, & J. V. Villumsen, “The Palomar GLOB Survey”, in *Sky Surveys: Protostars to Protogalaxies*, ASP Conference Series, Vol. 43, ed. B. T. Soifer, 177 (1993)

T. G. Brainerd & J. V. Villumsen, “The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe”, in *The Evolution of Galaxies and their Environment* (NASA conference publication 3190), eds. D. Hollenbach, J. M. Shull, & H. A. Thronson, 62 (1993)

R. D. Blandford, A. B. Saust, T. G. Brainerd, & J. V. Villumsen, “The Distortion of Distant Galaxy Images by Large-Scale Structure”, in *After the First Three Minutes*, AIP Conference Proceedings, Vol. 222, eds. S. S. Holt, C. L. Bennet, & V. Trimble, 455 (1991)

## PUBLISHED ABSTRACTS

**Boldface Author** below indicates student supervised

T. G. Brainerd, “K-band Luminosity Functions of Illustris TNG300-1 Galaxies”, American Astronomical Society meeting #238, id. 324.02, BAAS, Vol. 53, No. 6 (2021)

T. G. Brainerd & **A. Samuels**, “Lopsided Satellite Distributions around Isolated Host Galaxies”, American Astronomical Society meeting #237, id. 156.02, BAAS, Vol. 53, No. 1 (2021)

**O. Curtis** & T. G. Brainerd, “Fast Generated N-body Simulations of Large-scale Structure with Generative Adversarial Networks”, American Astronomical Society meeting #236, id. 241.03, BAAS, Vol. 52, No. 3 (2020)

**B. McDonough** & T. G. Brainerd, “Red Satellite Galaxies: The Best Tracers of Host Mass Distribution in the Illustris-TNG100 Simulations”, American Astronomical Society meeting #236, id. 245.01, BAAS, Vol. 52, No. 3 (2020)

**A. Samuels** & T. G. Brainerd, “Lopsided Satellite Distributions around Isolated Host Galaxies”, American Astronomical Society meeting #236, id. 245.02, BAAS, Vol. 52, No. 3 (2020)

T. G. Brainerd & **A. Samuels**, “Lopsided Satellite Distributions around Isolated Host Galaxies”, American Astronomical Society meeting #235, id. 133.01, BAAS, Vol. 52, No. 1 (2020)

T. G. Brainerd, “The 3D Spatial Distribution of Illustris-1 Satellite Galaxies”, American Astronomical Society meeting #233, id. 338.06 (2019)

**M. Yamamoto** & T. G. Brainerd, “Locations of Illustris-1 Satellite Galaxies”, American Astronomical Society meeting #233, id. 351.23 (2019)

T. G. Brainerd, “Satellite Galaxies in the Illustris-1 Simulation: Poor Tracers of the Underlying Mass Distribution”, American Astronomical Society meeting #232, id. 102.01 (2018)

T. G. Brainerd, “The Effects of Physically Unrelated Near Neighbors on the Weak Galaxy-Galaxy Lensing Signal”, American Astronomical Society meeting #231, id. 415.01 (2018)

T. G. Brainerd, “Anisotropic Galaxy-Galaxy Lensing in the Illustris-1 Simulation”, AAS Meeting #230, id. 314.01 (2017)

T. G. Brainerd, “The Effects of Physically Unrelated Near Neighbors on the Galaxy-Galaxy Lensing Signal”, American Astronomical Society meeting #229, id. 141.08 (2017)

T. G. Brainerd & **P. H. Koh**, “Weak Lensing by Illustris-1 Galaxies”, American Astronomical Society meeting #228, id. 109.04 (2016)

- T. G. Brainerd & **I. Agustsson**, “The Spatial Distribution of Spectroscopically Selected Satellite Galaxies”, American Astronomical Society meeting #225, id. 255.20 (2015)
- B. Harrison** & T. G. Brainerd, “Simulations of Galaxy-Galaxy Lensing by SDSS Galaxies”, American Astronomical Society Meeting #225, id. 225.04 (2015)
- T. G. Brainerd & **K. Blumenthal** “Effects of Multiple Weak Deflections on the Galaxy-Galaxy Lensing Signal”, American Astronomical Society meeting #224, id. 318.12 (2014)
- K. Blumenthal** & T. G. Brainerd, “Multiple Deflections in Galaxy-Galaxy Lensing”, American Astronomical Society meeting #223, id. 245.02 (2014)
- T. G. Brainerd, “Orientations of Bright Galaxies within their Dark Matter Halos”, AAS Topical Conference Series Vol. 1, BAAS, Vol. 45, #7, #201.01 (2013)
- T. G. Brainerd, **T. V. Wenger** & **I. Agustsson**, “Cosmic Magnification in the Sloan Digital Sky Survey”, AAS Topical Conference Series Vol. 1, BAAS, Vol. 45 #7, #303.06 (2013)
- T. G. Brainerd, **T. V. Wenger** & **I. Agustsson**, “Cosmic Magnification in the Sloan Digital Sky Survey”, American Astronomical Society meeting #221, id. 152.05 (2013)
- T. G. Brainerd & **T. V. Wenger**, “A Preliminary Analysis of Cosmic Magnification of SDSS Galaxies”, American Astronomical Society meeting #218, id. 235.02, BAAS, Vol. 43 (2011)
- I. Agustsson** & T. G. Brainerd, “Satellites as Probes of Dark Matter Halos”, American Astronomical Society meeting #218, id. 234.01, BAAS, Vol. 43 (2011)
- T. G. Brainerd & **I. Agustsson**, “Orientations of Galaxies within their Dark Matter Halos”, American Astronomical Society meeting #217, id. 403.01, BAAS, Vol. 43 (2011)
- T. G. Brainerd, **I. Agustsson**, **C. A. Madsen**, & **J. A. Edmonds**, “Large-Scale Intrinsic Alignments of Galaxies”, American Astronomical Society meeting #215, id. 409.06, BAAS, Vol. 42, p. 234 (2010)
- P. Howell** & T. G. Brainerd, “Properties of Dark Matter Halos from Galaxy-Galaxy Weak Lensing and Effects of Multiple Deflections”, American Astronomical Society meeting #215, id. 408.04, BAAS, Vol. 42, p. 232 (2010)
- T. G. Brainerd, “Can the Velocity Dispersion Profiles of Satellite Galaxies Distinguish Between NFW and Isothermal Halos?”, American Astronomical Society meeting #213, id. 479.02, BAAS, Vol. 41, p. 446 (2009)
- I. Agustsson** & T. G. Brainerd, “Orientation of Late-type Galaxies within their Dark Matter Halos”, American Astronomical Society meeting #213, id. 418.04, BAAS, Vol. 41, p. 231 (2009)
- I. Agustsson** & T. G. Brainerd, “Anisotropic Locations of Satellite Galaxies”, American Astronomical Society meeting #211, id. 09.01, BAAS, Vol. 39, p. 741 (2007)
- C. O. Wright** & T. G. Brainerd, “Constraining Galaxy Halo Shapes with Weak Lensing”, American Astronomical Society meeting #197, id. 105.03, BAAS, Vol. 32, p. 1577 (2000)
- T. G. Brainerd, **C. J. Law**, J. Brauher, S. G. Djorgovski, & K. Banas, “The Angular Clustering of Faint Galaxies in Quasar Fields”, American Astronomical Society #194, id. 89.07, BAAS, Vol. 31, p. 982 (1999)
- T. G. Brainerd & **C. M. Oaxaca**, “A Comparison of Simple Mass Estimators for Galaxy Clusters”, American Astronomical Society meeting #192, id. 42.06, BAAS, Vol. 30, p. 873 (1998)

- R. D. Blandford, J. Cohen, T. Kundic, T. Brainerd, & D. Hogg, “Gravitational Lensing on the Hubble Deep Field”, American Astronomical Society meeting #192, id. 07.04, BAAS, Vol. 30, p. 825 (1998)
- T. G. Brainerd & I. Smail, “A Nearly-Constant Clustering Amplitude for Faint Galaxies”, American Astronomical Society meeting #191, id. 87.12, BAAS, Vol. 29, p. 1355 (1997)
- C. M. Oaxaca** & T. G. Brainerd, “Weak Gravitational Lensing by Numerical Clusters”, American Astronomical Society meeting #191, id. 83.06, BAAS, Vol. 29, p. 1347 (1997)
- T. G. Brainerd, R. D. Blandford, & I. Smail, “Weak Gravitational Lensing by Galaxies: Implications for Dark Matter Halos”, American Astronomical Society meeting #188, id. 13.02, BAAS, Vol. 28, p. 843 (1996)
- T. G. Brainerd, R. De Carvalho, & S. G. Djorgovski, “Clustering of Galaxies in the Digitized Palomar Observatory Sky Survey: Preliminary Results”, American Astronomical Society meeting #187, id. 54.01, BAAS, Vol. 27, p. 1364 (1995)
- D. M. Goldberg**, T. G. Brainerd, & J. V. Villumsen, “Self-Consistent High Resolution Simulations of Cluster Formation”, American Astronomical Society meeting #187, id. 52.06, BAAS, Vol. 27, p. 1362 (1995)
- T. G. Brainerd, I. R. Smail, & J. R. Mould, “Angular Clustering of Galaxies to  $z \sim 1$ ”, American Astronomical Society meeting #185, id. 114.06, BAAS, Vol. 26, p. 1512 (1994)
- T. G. Brainerd, N. Weir, S. Djorgovski, & U. Fayyad, “Initial Measurements of the Galaxy Angular Two-Point Correlation Function from the Digitized Palomar Observatory Sky Survey”, American Astronomical Society meeting #183, id. 71.11, BAAS, Vol. 25, p. 1400 (1993)
- T. G. Brainerd & J. V. Villumsen, “A High Resolution Numerical Simulation of the Formation of a Massive Dark Galaxy Halo”, American Astronomical Society meeting #181, id. 79.04, BAAS, Vol. 24, p. 1248 (1992)
- T. G. Brainerd & J. V. Villumsen, “The Effect of Halo Mass on the Spatial Correlation Properties of Dark Halos in a CDM Universe”, American Astronomical Society meeting #180, id. 50.02, BAAS, Vol. 24, p. 811 (1992)
- T. G. Brainerd, “A Study of the Properties of Dark Galaxy Halos formed in a CDM Universe using N-body Computer Simulations”, American Astronomical Society meeting #179, BAAS, Vol. 23, p. 1398 (1991)

Press Conference & Recent Media Coverage

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Talk Title: *Lopsided Satellite Distributions around Isolated Host Galaxies*

Location: 236th Meeting of the American Astronomical Society (Virtual), June 2020

Session: “Galaxies: Weird & Wonderful”

Press Conference Moderator: Dr. Richard Feinberg, AAS Press Secretary

Article Title: *Could the Distribution of Galaxies Reveal the Universe’s Invisible Web of Dark Matter?*

Publication: The Brink

Author: Kat J. McAlpine

<https://www.bu.edu/articles/2020/could-the-distribution-of-galaxies-reveal-the-universes-invisible-web-of-dark-matter/>

## INVITED SEMINARS AND COLLOQUIA

*Satellite Galaxies as Tracers of Dark Matter Haloes*

Saint Mary's University (Halifax, NS) Astronomy & Physics Colloquium, November 2019

*Weak Gravitational Lensing – Challenges for Obtaining Accurate Dark Matter Masses*

The College of New Jersey Physics Colloquium, April 2019

*Connecting Dark and Luminous Material from 10's of kpc to a few Mpc*

Boston University Graduate Journal Club, December 2018

*Gravitational Lenses: Nature's Own Telescopes*

Aldrich Astronomical Society Meeting, Anna Maria College, March 2018

*The Trouble(s) with Galaxy-Galaxy Lensing*

Boston University Astrophysics Colloquium, January 2015

*Bright Galaxies and their Dark Matter Halos*

Argonne National Laboratory, High Energy Physics Seminar, June 2013

*Bright Galaxies and their Dark Matter Halos*

University of Toledo Physics Colloquium, August 2012

*Clues to the Orientations of Bright Galaxies within their Dark Matter Halos*

University of Massachusetts (Amherst) Astronomy Colloquium, September 2011

*Seeing the Un-seeable: Clues to the Orientations of Galaxies Inside their Dark Matter Halos*

Boston University Astrophysics Colloquium, September 2010

*Seeing the Un-seeable: Clues to the Orientations of Galaxies Inside their Dark Matter Halos*

Drexel University Physics Colloquium, June 2010

*Large-Scale Intrinsic Alignments of Galaxies*

Brandeis University Physics Colloquium, September 2009

*Constraints on Dark Matter Halos from Satellite Galaxies*

University of Massachusetts (Lowell) Physics Colloquium, September 2006

*New Constraints on CDM Halos from Satellite Galaxies and Weak Lensing:*

*The View from CAS 514B*

Boston University Astrophysics Colloquium, February 2006

*Satellite Galaxies and CDM Halos*

Michigan State University Astrophysics Colloquium, January 2006

*Mass Estimators for Field Galaxies*

University of Toronto (Canada) Astrophysics Colloquium, February 2004

*Mass Estimators for Field Galaxies*

University of Waterloo (Canada) Astrophysics Seminar, February 2004

*Mass-to-Light Ratios of 2dFGRS Galaxies*

Boston University Astrophysics Colloquium, December 2003

*Multiple Deflections in the HDF-North*  
The Ohio State University Astrophysics Colloquium, January 2003

*Galaxy-Galaxy Lensing: THE Tool for Constraining Galaxy Evolution (?)*  
Harvard-Smithsonian Center for Astrophysics Optical/IR Seminar, April 2002

*Gravitational Optics: Tracing Dark Matter in the Universe*  
Tufts University Physics Colloquium, March 2002

*Gravitational Optics with Galaxies*  
University of Wisconsin at Madison Astronomy Colloquium, February 2002

*Measuring Halo Shapes with Weak Lensing*  
Brown University Theoretical Physics Seminar, February 2001

*Constraining the Shapes of the Dark Halos of Field Galaxies*  
Boston University Astrophysics Seminar, January 2001

*Weak Lensing: Mapping Dark Matter on Scales of 10 kpc*  
Yale University Astrophysics Seminar, October 2000

*Galaxy-Galaxy Lensing*  
University of Florida (Gainesville) Astrophysics Colloquium, February 2000

*Weak Lensing by Numerical Clusters*  
California Institute of Technology Astrophysics Colloquium, January 2000

*Weak Lensing by Numerical Clusters*  
Massachusetts Institute of Technology Astrophysics Colloquium, August 1999

*Highlights of the 1999 Gravitational Lensing Conference*  
Harvard-Smithsonian Center for Astrophysics, High Energy Astrophysics Division Journal Club,  
August 1999

*Weighing Galaxy Halos via Weak Gravitational Lensing*  
Boston University Astrophysics Colloquium, November 1998

*Galaxy-Galaxy Lensing*  
University of Durham (United Kingdom) Astrophysics Theory Seminar, November 1997

*Weak Gravitational Lensing by Galaxies*  
Fermi National Accelerator Laboratory Astrophysics Seminar, June 1996

*Weak Gravitational Lensing by Galaxies*  
Massachusetts Institute of Technology Astrophysics Colloquium, May 1996

*Weak Gravitational Lensing by Galaxies*  
Harvard-Smithsonian Center for Astrophysics Theory Seminar, April 1996

*Measuring Galaxy Masses using Weak Gravitational Lensing*  
University of California (Berkeley) Astrophysics Seminar, May 1995

*Weak Gravitational Lensing by Galaxies*  
Boston University Astrophysics Colloquium, December 1994

*Measuring Galaxy Masses using Weak Gravitational Lensing*  
Los Alamos National Laboratory High Energy Theory Seminar, December 1994

*Cold Dark Matter Confronts Galaxy Clustering*  
University of Maryland at College Park Astrophysics Colloquium, March 1994

*Cold Dark Matter Confronts Galaxy Clustering*  
University of Florida (Gainesville) Astrophysics Colloquium, March 1994

*Cold Dark Matter Confronts Galaxy Clustering*  
Los Alamos National Laboratory Astrophysics Seminar, March 1994

*Cold Dark Matter Confronts Galaxy Clustering*  
Boston University Astrophysics Colloquium, February 1994

*The Redshift-Space Power Spectrum of Galaxies*  
California Institute of Technology Astrophysics Seminar, December 1993

*The Clustering of Galaxies in a Cold Dark Matter Universe*  
The Ohio State University Astrophysics Colloquium, May 1992

## INVITED CONFERENCE REVIEWS

*Galaxy-Galaxy Lensing I: History, Theoretical Expectations & Simulations*  
INAF/COSMOCT Autumn School on Gravitational Lensing, Catania, Italy, October 2006

*Galaxy-Galaxy Lensing II: Observational Constraints on Dark Matter Halos*  
INAF/COSMOCT Autumn School on Gravitational Lensing, Catania, Italy, October 2006

*Constraining the Dark Mass Distribution on 100 kpc Scales*  
Santa Fe Summer Cosmology Workshop, Santa Fe, NM, July 2002

*The Status of Galaxy-Galaxy Lensing*  
IAU Symposium 201, “New Cosmological Data and the Value of the Fundamental Parameters”,  
Manchester, United Kingdom, August 2000

*Probing Dark Matter Halos with Weak Lensing*  
2nd Princeton - PUC Joint Workshop on Astrophysics, “Dark Matter and Gravitational Lensing”,  
San Pedro de Atacama, Chile, July 2000

*Galaxy-Galaxy Lensing*  
“Gravitational Lensing: Recent Progress & Future Goals”, Boston University, July 1999

*Weak Gravitational Lensing in the Universe*  
1st Moroccan International Astronomy School, Casablanca, Morocco, December 1996

*Testing Theories of Structure Formation*  
Astronomical Society of the Pacific Annual Meeting, Univ. of Maryland (College Park), June 1995

## INVITED CONFERENCE TALKS

*Flattening of Field Galaxy Halos*  
XXIst Institut d’Astrophysique de Paris meeting, “Mass Profiles and Shapes of Cosmological Structures”, Paris, France, July 2005

*The Effect of Multiple Weak Deflections on Galaxy-Galaxy Lensing*  
IAU Symposium 225, “The Impact of Gravitational Lensing on Cosmology”, Lausanne, Switzerland, July 2004

*Halos of Field Galaxies: Dynamics versus Weak Lensing*  
1st Mitchell Symposium on Observational Cosmology, Texas A & M University, April, 2004

## CONTRIBUTED CONFERENCE TALKS

Bibliographic information for abstracts of talks delivered at American Astronomical Society meetings is provided under the Published Abstracts heading

*K-band Luminosity Functions of Illustris TNG300-1 Galaxies*  
Meeting of the American Astronomical Society (Virtual), June 2021

*Lopsided Satellite Distributions around Isolated Host Galaxies*  
Meeting of the American Astronomical Society (Virtual), January 2021

*Lopsided Satellite Distributions around Isolated Host Galaxies*  
Meeting of the American Astronomical Society, Honolulu, HI January 2020

*The 3-D Spatial Distribution of Illustris-1 Satellite Galaxies*  
Meeting of the American Astronomical Society, Seattle, WA, January 2019

*Satellite Galaxies in the Illustris-1 Simulation: Poor Tracers of the Underlying Mass Distribution*  
Meeting of the American Astronomical Society, Denver, CO, June 2018

*The Effects of Physically Unrelated Near Neighbors on the Weak Galaxy-Galaxy Lensing Signal*  
Meeting of the American Astronomical Society, National Harbor, MD, January 2018

*Weak Gravitational Lensing by Illustris-1 Galaxies*  
Meeting of the American Astronomical Society, San Diego, CA, June 2016

*The Troubles with Anisotropic Galaxy-Galaxy Lensing*  
XXVII Texas Symposium on Relativistic Astrophysics, Dallas, TX, December 2013

*Orientations of Bright Galaxies within their Dark Matter Halos*  
“Probes of Dark Matter on Galaxy Scales”, Monterey, CA, July 2013

*The Importance of Simulations for the Interpretation of Galaxy-Galaxy Lensing Observations*  
SnowPAC 2012, Salt Lake City, UT, March 2012

*Orientations of Galaxies within their Dark Matter Halos*  
Meeting of the American Astronomical Society, Seattle, WA, January 2011

*The Troubles with Anisotropic Galaxy-Galaxy Lensing*  
“Ten Years of Cosmic Shear”, Edinburgh University, Edinburgh, UK, July 2010

*Satellite Galaxies as Tracers of Dark Matter Halos*  
“Unveiling the Mass: Extracting and Interpreting Galaxy Masses”, Queens University, Kingston, ON, Canada, June 2009

*Using Weak Lensing to Constrain the Shapes of Galaxy Halos*  
“A New Era in Cosmology”, University of Durham, UK, September 2001



*Weak Lensing by Flattened Halos*

“The Shapes of Galaxies and their Halos”, Yale University, New Haven, CT May 2001

*Strong Clustering of Faint Galaxies*

“Cosmology from COBE to Galaxy Formation”, Nordic Symposium, NORDITA, Copenhagen, Denmark, December 1997

*Galaxy-Galaxy Lensing*

Cluster and Weak Gravitational Lensing Workshop, Ringberg Castle, Germany, January 1997

*The Redshift-Space Power Spectrum of Galaxies*

MSSSO Workshop on Peculiar Velocities in the Universe, Heron Island, Australia, July 1995

*Weak Lensing by Individual Galaxies*

IAU Symposium 173, “Astrophysical Applications of Gravitational Lensing”, Melbourne, Australia, June 1995

*Galaxy Halo Parameters from Weak Gravitational Lensing*

Meeting of the Astronomical Society of the Pacific, Univ. of Maryland (College Park), June 1995

*A Study of the Properties of Dark Galaxy Halos formed in a CDM Universe using N-body Computer Simulations* (Dissertation Talk)

Meeting of the American Astronomical Society, Atlanta, GA, January 1992

## CONFERENCE POSTER PRESENTATIONS

Bibliographic information for abstracts of posters presented at American Astronomical Society meetings is provided under the Published Abstracts heading

**Boldface Author** below indicates student supervised

*Lopsided Satellite Distributions around Isolated Host Galaxies*

Authors: **A. Samuels** & T. G. Brainerd

Meeting of the American Astronomical Society (Virtual), June 2020

*Fast Generation of Large-scale Density Maps via Generative Adversarial Networks*

Authors: **O. Curtis** & T. G. Brainerd

Meeting of the American Astronomical Society (Virtual), June 2020

*Red Satellite Galaxies: The Best Tracers of Host Mass Distribution in the Illustris-TNG100 Simulation*

Authors: **B. McDonough** & T. G. Brainerd

Meeting of the American Astronomical Society (Virtual), June 2020

*Locations of Illustris-1 Galaxies*

Authors: **M. Yamamoto** & T. G. Brainerd

Meeting of the American Astronomical Society, Seattle WA January 2019

*Anisotropic Galaxy-Galaxy Lensing in the Illustris-1 Simulation*

Author: T. G. Brainerd

Meeting of the American Astronomical Society, Austin TX June 2017

*Using Mock Universes to Understand Galaxy-Galaxy Lensing*  
 Author: T. G. Brainerd  
 “Mocking the Universe”, STScI, Baltimore, MD, July 2015

*The Spatial Distribution of Spectroscopically Selected Satellite Galaxies*  
 Authors: T. G. Brainerd & **I. Agustsson**  
 Meeting of the American Astronomical Society, Seattle, WA January 2015

*Simulations of Galaxy-Galaxy Lensing by SDSS Galaxies (Graduate Chambliss Award Poster)*  
 Authors: **B. Harrison** & T. G. Brainerd  
 Meeting of the American Astronomical Society, Seattle, WA January 2015

*Effects of Multiple Weak Deflections on the Galaxy-Galaxy Lensing Signal*  
 Authors: T. G. Brainerd & **K. Blumenthal**  
 Meeting of the American Astronomical Society, Boston, MA June 2014

*Multiple Deflections in Galaxy-Galaxy Lensing*  
 Authors: **K. Blumenthal** & T. G. Brainerd  
 Meeting of the American Astronomical Society, National Harbor, MD, January 2014

*Cosmic Magnification in the Sloan Digital Sky Survey*  
 Authors: T. G. Brainerd, **T. V. Wenger** & **I. Agustsson**  
 “Probes of Dark Matter on Galaxy Scales”, Monterey, CA, July 2013

*Cosmic Magnification in the Sloan Digital Sky Survey*  
 Authors: T. G. Brainerd, **T. V. Wenger** & **I. Agustsson**  
 Meeting of the American Astronomical Society, Long Beach, CA, January 2013

*A Preliminary Analysis of Cosmic Magnification of SDSS Galaxies*  
 Authors: T. G. Brainerd & **T. V. Wenger**  
 Meeting of the American Astronomical Society, Boston, MA, May 2011

*Satellite Galaxies as Probes of Dark Matter Halos*  
 Authors: **I. Agustsson** & T. G. Brainerd  
 Meeting of the American Astronomical Society, Boston, MA, May 2011

*Intrinsic Alignments of Galaxies*  
 Authors: T. G. Brainerd, **I. Agustsson**, **C. A. Madsen** & **J. A. Edmonds**  
 “Ten Years of Cosmic Shear”, Edinburgh University, Edinburgh, UK, July 2010

*Multiple Deflections in Galaxy-Galaxy Lensing: Observations*  
 Authors: **P. J. Howell** & T. G. Brainerd  
 “Ten Years of Cosmic Shear”, Edinburgh University, Edinburgh, UK, July 2010

*Large-Scale Intrinsic Alignments of Galaxies*  
 Authors: T. G. Brainerd, **I. Agustsson**, **C. A. Madsen** & **J. A. Edmonds**  
 Meeting of the American Astronomical Society, Washington, DC, January 2010

*Properties of Dark Matter Halos from Galaxy-Galaxy Weak Lensing and the Effect of Multiple Deflections*  
 Authors: **P. Howell** & T. G. Brainerd  
 Meeting of the American Astronomical Society, Washington, DC, January 2010

*Orientation of Late-Type Galaxies within their Dark Matter Halos*

Authors: **I. Agustsson** & T. G. Brainerd

“Unveiling the Mass: Extracting and Interpreting Galaxy Masses”, Queens University, Kingston, ON, Canada, June 2009

*Influence of Multiple Deflections on Weak Lensing Probes of Flattened Dark Matter Halos*

Authors: **P. J. Howell** & T. G. Brainerd

“Unveiling the Mass: Extracting and Interpreting Galaxy Masses”, Queens University, Kingston, ON, Canada, June 2009

*Can the Velocity Dispersion Profiles of Satellite Galaxies Distinguish Between NFW and Isothermal Halos?*

Author: T. G. Brainerd

Meeting of the American Astronomical Society, Long Beach, CA, January 2009

*Orientation of Late-Type Galaxies within their Dark Matter Halos*

Authors: **I. Agustsson** & T. G. Brainerd

Meeting of the American Astronomical Society, Long Beach, CA, January 2009

*Anisotropic Locations of Satellite Galaxies*

Authors: **I. Agustsson** & T. G. Brainerd

Meeting of the American Astronomical Society, Austin, TX, January 2008

*Mass-to-Light Ratios of 2dF Galaxies*

Authors: T. G. Brainerd & **M. A. Specian**

“Dark Matter in Galaxies”, IAU Symposium 220, Sydney, Australia, July 2003

*Multiple Deflections in the HDF-North*

Author: T. G. Brainerd

“Maps of the Cosmos”, IAU Symposium 216, Sydney, Australia, July 2003

*Detecting Flattened Halos with Weak Lensing*

Authors: T. G. Brainerd & **C. O. Wright**

Hubble Science Legacy Workshop, University of Chicago, Chicago, IL, April 2002

*Multiple Weak Lensing Events in the HDF-North*

Author: T. G. Brainerd

“Infrared Astronomy from Antarctica”, Boston University, Boston, MA, March 2003

*Constraining the Flattening of Field Galaxy Lenses*

Authors: **C. O. Wright** & T. G. Brainerd

“Gravitational Lensing: Recent Progress & Future Goals, Boston University, July 1999

*Faint Galaxy Clustering in Quasar Fields*

Authors: T. G. Brainerd, **C. J. Law**, J. Brauher, S. G. Djorgovski, & K. Banas

“The Hy-redshift Universe”, University of California (Berkeley), Berkeley, CA June 1999

*Faint Galaxy Clustering in Quasar Fields*

Authors: T. G. Brainerd, **C. J. Law**, J. Brauher, S. G. Djorgovski, & K. Banas

Meeting of the American Astronomical Society, Chicago, IL, June 1999

*Weighing the Heaviest Objects in the Universe*

Authors: **C. O. Wright** & T. G. Brainerd

“Pathways 1999”, Boston University, April 1999

*Gravitational Lensing by an NFW Density Profile*

Authors: **C. O. Wright** & T. G. Brainerd

Graduate Student Science Day, Boston University, March 1999

*Galaxy-Galaxy Lensing*

Author: T. G. Brainerd

10th Annual National Academy of Sciences "Frontiers of Science" Symposium, Irvine, CA, November 1998

*A Comparison of Simple Mass Estimators for Galaxy Clusters*

Authors: T. G. Brainerd & **C. M. Oaxaca**

Meeting of the American Astronomical Society, San Diego, CA, June 1998

*A Nearly Constant Clustering Amplitude for Faint Galaxies*

Authors: T. G. Brainerd & I. Smail Meeting of the American Astronomical Society, Washington, DC, January 1998

*Weak Gravitational Lensing by Numerical Clusters*

Authors: **C. M. Oaxaca** & T. G. Brainerd

Meeting of the American Astronomical Society, Washington, DC, January 1998

*Weak Lensing by Galaxies*

Authors: T. G. Brainerd, R. D. Blandford & I. Smail

1st Moroccan International Astronomy School, Casablanca, Morocco, December 1996

*High-Resolution Rich Cluster Simulations*

Authors: T. G. Brainerd, **D. M. Goldberg** & J. V. Villumsen

37th Herstmonceux Conference, Cambridge University, UK, July 1996

*Gravitational Lensing in the Hubble Deep Field*

Authors: D. W. Hogg, R. D. Blandford, T. Kundic & T. G. Brainerd

37th Herstmonceux Conference, Cambridge University, UK, July 1996

*Weak Gravitational Lensing by Galaxies - Implications for Dark Matter Halos*

Authors: T. G. Brainerd, R. D. Blandford & I. Smail

Meeting of the American Astronomical Society, Madison, WI, June 1996

*Clustering of Galaxies in the Digitized Palomar Observatory Sky Survey: Preliminary Results*

Authors: T. G. Brainerd, R. De Carvalho, & S. G. Djorgovski

Meeting of the American Astronomical Society, San Antonio, TX

*Self-Consistent High-Resolution Simulations of Cluster Formation*

Authors: **D. M. Goldberg**, T. G. Brainerd & J. V. Villumsen

Meeting of the American Astronomical Society, San Antonio, TX, January 1996

*Angular Clustering of Galaxies to  $z \sim 1$*

Authors: T. G. Brainerd, I. R. Smail & J. R. Mould

Meeting of the American Astronomical Society, Tucson, AZ, January 1995

*The Power Spectrum of Dark Matter Halos in a CDM Universe*

Authors: T. G. Brainerd & J. V. Villumsen

5th Annual Astrophysics Conference in Maryland, University of Maryland (College Park), College Park, MD, October 1994

*Initial Measurements of the Galaxy Angular Two-Point Correlation Function from the Digitized Palomar Observatory Sky Survey*

Authors: T. G. Brainerd, N. Weir, S. Djorgovski, & U. Fayyad

Meeting of the American Astronomical Society, Washington, DC, January 1994

*A High Resolution Numerical Simulation of the Formation of a Massive Dark Galaxy Halo*

Authors: T. G. Brainerd & J. V. Villumsen

Meeting of the American Astronomical Society, Phoenix, AZ, January 1993

*Linear Evolution of the Gravitational Potential: A New Approximation for the Nonlinear Evolution of Large-Scale Structure*

Authors: T. G. Brainerd, R. J. Scherrer & J. V. Villumsen

Texas/PASCOS Meeting, University of California (Berkeley), Berkeley, CA, December 1992

*The Spatial Correlation Properties of Galaxy Halos in a Cold Dark Matter Universe*

Authors: T. G. Brainerd & J. V. Villumsen

“The Evolution of Galaxies and their Environment”, Jackson Hole, WY, July 1992

*A High-Resolution Numerical Simulation of the Formation of a Massive Dark Galaxy Halo*

Authors: T. G. Brainerd & J. V. Villumsen

Meeting of the American Astronomical Society, Columbus, OH, June 1992

*Gravitational Lenses: Nature's Own Telescopes*

Boston University "Night at the Observatory" Alumni Event, Boston University, September 2019

*Gravitational Lenses: Nature's Own Telescopes*

Boston University "Night at the Observatory" Alumni Event, Boston University, September 2018

*Highlights of Astronomy at Boston University*

Boston University "Night at the Observatory" Alumni Event, Boston University, September 2017

*Gravitational Lenses: Nature's Own Telescopes*

Boston University Graduate School of Visual Arts Lecture Series, Boston University, December 2015

Participant, Expert Panel on Career Challenges for Women in Space Science

"Plasma Processes in Space Physics" Graduate Summer School, Boston University, August 2012

*Einstein's Relativity*

Science for the Public, Cambridge MA Public Library, November 2010

*Seeing the Un-seeable: Clues to the Orientations of Bright Galaxies within their Dark Matter Halos*  
PHOTON (BU chapter of the Society of Physics Students), Boston University, December 2009

*Satellite Galaxies and CDM Halos*

Meeting of the American Association of Physics Teachers, Boston University, March 2006

*Hubble Space Telescope's Contributions to Cosmology*

Two-way webinar for advanced high school science students in Buenos Aires, Argentina, organized by Drs. Pedro Saizar and Anibal Gattone, April 2005

Participant, Expert Panel on Einstein's Relativity

Boston Museum of Science, March 2005

*Cosmology with the Hubble Space Telescope*

Boston University Astronomical Society, Boston, MA March 2001

*HST: 10 Years of Spectacular Images from Space*

Boston University Earth & Environmental Awareness House, Boston, MA, November 2000

*The Night Sky*

Moroccan-American School, Casablanca, Morocco, December 1996

*The Universe of Galaxies*

Boston University Space and Astronomy Day, Boston, MA, November 1996

*The Role of N-body Simulations in Cosmology*

"Universe '95", University of Maryland at College Park, College Park, MD, June 1995

Participant, Expert Panel on Dark Matter in the Universe  
“Universe ’95”, University of Maryland at College Park, College Park, MD, June 1995

*The Big Bang*  
San Diego Amateur Astronomy Association, San Diego, CA, November 1993

*The Big Bang*  
Monrovia Rotary Society, Monrovia, CA, April 1993