# Gregory A. Feiden

*Curriculum Vitae*


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| UNG – Department of Physics | | Phone: | +1 706 864 1510 |
| 82 College Circle | | Fax: | +1 706 867 2797 |
| Dahlonega, GA 30533 | | Email: | gregory.feiden@ung.edu |
| USA | | Homepage: | http://gfeiden.github.io/ |


**Personal Information**:

Citizenship: United States of America — Languages: English (native), Swedish (basic)

**Education**:

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|---|---|---|
| 2008 – 2013 | Ph.D. (Physics & Astronomy) | Dartmouth College |
| 2004 – 2008 | B.S. (Physics) | State University of New York at Oswego |

**Appointments**:

| | | |
|---|---|---|
| 2016 – | Assistant Professor of Astronomy | University of North Georgia |
| 2015 – 2016 | Research Scientist | Uppsala University |
| 2013 – 2015 | Postdoctoral Scholar | Uppsala University |
| 2012 – 2013 | Gordon F. Hull Graduate Fellow | Dartmouth College |
| 2011 – 2012 | Neukom Graduate Fellow | Dartmouth College |
| 2008 – 2013 | Graduate Research Assistant | Dartmouth College |
| 2007 | NSF REU Research Assistant | University of Rochester |
| 2006 – 2007 | Research Assistant | State University of New York at Oswego |

**Awarded Grants & Fellowships**:

| | | |
|---|---|---|
| 2017 – 2018 | Georgia Space Grant Consortium | 7 500 USD |
| 2016 | Uppsala University conference grant | 35 000 USD |
| 2016 | Swedish National Space Board (SNSB) conference grant | 7 000 USD |
| 2014 | Uppsala University Rector's & SNSB travel grants | 5 000 USD |
| 2013 – 2015 | Uppsala U. Postdoctoral Fellowship, Physics & Astronomy | 100 000 USD |
| 2012 – 2013 | Gordon F. Hull Graduate Fellowship | 26 000 USD |
| 2011 – 2012 | Neukom Institute for Computational Science Fellowship | 26 000 USD |

**Honors & Awards**:

| | | |
|---|---|---|
| 2013 | Physics & Astronomy Excellence in Research Award | Dartmouth College |
| 2012 | Selamawit Tsehaye Excellence in Teaching Award | Dartmouth College |
| 2010 | Outstanding Graduate TA (selected by students) | Dartmouth College |
| 2008 | SUNY Chancellor's Award for Student Excellence | SUNY |

**Research Interests**:

Physics of (sub)stellar interiors and atmospheres; Computational stellar evolution; Stellar ages; Convection; Magneto-convection; Stellar populations; Radiative transfer.

**Publication Summary**: (see page 7)

24 refereed publications | 8 lead–author | 700+ citations | $h$–index = 15 | $i$10 = 17

**Summary of Talks Given**: (see page 6)

21 total talks | 3 invited reviews | 6 contributed talks | 12 invited seminars

**Student Supervision**:

| | | | |
|---|---|---|---|
| 2017 – | Jessica Hamilton | Undergraduate directed study | University of North Georgia |
| | *Effects of Starspots on the Photometric Properties of Low-Mass Stars* | | |
| 2017 – | Maxwell Roberts | Undergraduate directed study | University of North Georgia |
| | *Investigations into why Stars become Red Giants* | | |
| 2017 – | Ariel Owens | Undergraduate directed study | University of North Georgia |
| | *TBD* | | |
| 2017 – | Taylor Baker | Undergraduate directed study | University of North Georgia |
| | *Mutli-band Photometric Light Curves of Eclipsing Binary Stars from NGAO* | | |
| 2017 | David Brendel | Summer research assistant | University of North Georgia |
| | *Toward First Light for the eShel Spectrograph at the NGAO* | | |
| 2017 | Danielle Smith | Undergraduate directed study | University of North Georgia |
| | *Magnetic Stellar Model Web Server and Data Archive* | | |
| 2017 | Amber Reynolds | Undergraduate directed study | University of North Georgia |
| | *Developing an Open-Source Stellar Parameter Inference Tool* | | |
| 2017 | Charlie Wood | Computer Science Senior Capstone | University of North Georgia |
| | *From FORTRAN to Fortran: Modernizing the MARCS Stellar Atmosphere Code* | | |
| 2016 | Joshua King | Undergraduate directed study | University of North Georgia |
| | *Temperature-Gain Calibration of the NERT* | | |
| 2016 | Jonas Engman | Undergraduate Senior Capstone | Uppsala University |
| | *A High-Resolution Spectroscopic Study of UV Piscium* | | |
| 2015 | Steven Christophe | Master student internship | Université Paris–Sud |
| | *Effects of Starspots on the Photometric Properties of Young Stars* | | |
| 2013 – 2015 | Jaquille Jones | Undergraduate research project | Dartmouth College |
| | *Updating the Dartmouth Stellar Evolution Model Grid* | | |

## Professional Service

Peer Review:
NASA ROSES ADAP, NASA EPSCoR, *Science* Advances, AAS Journals, The Astrophysical Journal, Astronomy & Astrophysics, Monthly Notices of the Royal Astronomical Society, Astrophysics & Space Science, Journal of Astrophysics & Astronomy, French CFHT Small & Large Program TAC

| | | |
|---|---|---|
| 2017 – | SOC member, Cool Stars 20 Conference | Harvard CfA |
| 2014 – 2017 | SOC/LOC (chair), Cool Stars 19 Conference | Uppsala University |
| 2013 – 2016 | Organizer: astronomy division's weekly meeting | Uppsala University |
| 2014 – 2015 | LOC, Swedish Astronomer Days 2015 | Uppsala University |
| 2013 – 2015 | AAS Chambliss poster award judge | AAS |
| 2011 – 2013 | Organizer: astronomer's weekly journal club | Dartmouth College |

**Observing Time Allocation**:

| Telescope | Instrument | Term | Role | PI | Allocation |
|---|---|---|---|---|---|
| NOT | FIES | 2014a | PI | G. Feiden | 20 hours |
| SALT | HRS | 2014a | Co-PI | B. Chaboyer | 5 hours |
| SALT | HRS | 2013b | Co-PI | B. Chaboyer | 14 hours |

## Professional Development

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|---|---|---|
| 2017 | Write Now Academy | University of North Georgia |
| 2016 | AAPT New Faculty Workshop | American Center for Physics |
| 2016 | Microsoft Azure Training Workshop | University of North Georgia |
| 2015 | Academic Teacher Training & Pedagogical Methods Course | Uppsala University |
| 2010 | Message Passing Interface (MPI) Workshop | Dartmouth College |
| 2010 | High Performance Computing Workshop | Dartmouth College |
| 2008 | NSF Proposal Writing Workshop | Dartmouth College |
| 2008 | Introduction to Teaching | Dartmouth College |

## Organization Memberships

- American Astronomical Society (AAS)
- Royal Astronomical Society (RAS)
- Society of Physics Students (SPS)
- Sigma Pi Sigma (ΣΠΣ; physics honor society)

**Teaching Experience**:

2016 – Assistant Professor University of North Georgia
Duties include teaching 12 credit hours of introductory astronomy split between intro. astronomy lectures, intro. astronomy lab sections, and upper level astrophysics courses.

2014 – 2016 Instructor Uppsala University
Duties include teaching introductory physics (Fall 2014, Winter 2016) and an advanced undergraduate astronomy course, Astrophysics II (Spring 2014, Winter 2015, 2016). The latter course I re-designed and developed during Fall 2014.

2008 – 2013 Teaching assistant & guest lecturer Dartmouth College
Taught introductory physics, introductory astronomy, and graduate-level stellar astrophysics. Guest lecturer for several classes with between 40 and 200 students.

**Outreach Activities**:

- I am a volunteer youth ice hockey coach. Most recently, I organized and ran weekly goaltending clinics during fall and winter months for the Upper Valley Hockey Association in Hartford, VT (2010 – 2013) and the Hanover, NH men's high school hockey team (2011 – 2013).
- Co-developer and presenter of Dartmouth's *Stellar Forensics* exhibition in 2010, an outreach program designed to teach children and adults about stellar spectroscopy through hands-on activities. A modified program continues at Dartmouth under the name *Stellar Detectives*. Presented on multiple occasions at three local (NH/VT) science museums between 2010 and 2012, at the NH Space Grant Consortium Exposition in 2011, and twice (2010, 2014) at the USA Science and Engineering Festival Exposition in Washington D.C.
- Designed and led public observing evenings at Dartmouth College's Shattuck Observatory, for the Quechee (VT) State Park, and for the Quechee township during the transit of Venus (2011 – 2013).
- Public Lectures:
  - *Preparing for and Viewing the 2017 Solar Eclipse*, UNG Solar Eclipse Program, Aug 2017
  - *The Great American Solar Eclipse*, Get off the Grid Festival, Aug 2017
  - *The Great American Solar Eclipse*, Gainesville Rotary Club, Aug 2017
  - *Living with a Red Dwarf*, Dahlonega Science Café, Jul 2017
  - *The Origin of the Universe*, McAuliffe-Shepard Discovery Center, Oct 2011

**Grant Proposals**:

| Year | Role | Grant | Status | Request |
|---|---|---|---|---|
| 2017 | PI | NASA ROSES Astrophysics Theory Program | Pending | $85 780 |
| 2017 | Co-I | NASA ROSES Astrophysics Theory Program | Pending | $415 797 |
| 2017 | Co-PI | Georgia Space Grant Consortium | **Funded** | $7 500 |
| 2017 | Co-I | AAS Solar Eclipse Program | Unfunded | $2 250 |
| 2016 | PI | NASA ROSES Astrophysics Theory Program | Unfunded | $125 000 |
| 2016 | PI | Uppsala University Conference Grant | **Funded** | $35 000 |
| 2015 | PI | Swedish National Space Board Conference Grant | **Funded** | $7 000 |
| 2015 | PI | Swedish National Space Board Research Grant | Unfunded | $425 000 |
| 2014 | PI | Uppsala University Rector's Travel Grant | **Funded** | $2 500 |
| 2013 | PI | Uppsala University Postdoc Fellowship | **Funded** | $100 000 |
| 2011 | PI | Neukom Institute Science Fellowship | **Funded** | $26 000 |

*Presentations*

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## Summary

21 total talks | 3 invited reviews | 6 contributed talks | 12 invited seminars

## Conference Talks & Seminars:

21. Physics Seminar: University of North Georgia, Dahlonega, GA, 31 Jan 2017.
20. Contributed Talk: Georgia Regional Astronomy Meeting, Atlanta, GA, 29 Oct 2016.
19. Astrophysics Group Seminar, NORDITA, Stockholm, Sweden, 09 Dec 2015.
18. Complex Systems Lunch Seminar: Center for Interdisciplinary Mathematics, Uppsala University, Uppsala, Sweden, 24 Nov 2015.
17. Contributed Talk: Astronomdagarna 2015 (Biennial Meeting of Swedish Astronomers), Uppsala, Sweden, 23 Oct 2015.
16. Astronomy Lunch Talk: Boston University, Boston, MA, 29 Sep 2015.
15. Astronomy Seminar: Harvard–SAO Center for Astrophysics, Cambridge, MA, 28 Sep 2015.
14. Physics & Astronomy Colloquium: Dartmouth College, Hanover, NH, 25 Sep 2015.
13. Astronomy Colloquium: University of Texas at Austin, Austin, TX, 22 Sep 2015.
12. **Invited Review**: International Astronomical Union Symposium #314, Atlanta, Georgia, 12 May 2015.
11. Astronomy Seminar: Stockholm University, Stockholm, Sweden, 30 Jan 2015.
10. Contributed Talk: American Astronomical Society Meeting 225, Seattle, WA, 05 Jan 2015.
9. Astronomy Seminar, Aarhus University, Aarhus, Denmark, 09 Dec 2014.
8. **Invited Review**:"Living Together: Planets, Host Stars, and Binaries," Litomyšl, Czech Republic, 08 Sep 2014.
7. **Invited Review**: Cool Stars 18 Splinter Session: Touchstone Stars, Flagstaff, AZ, 09 Jun 2014.
6. Contributed Talk: Binary 2013 Conference, Leuven, Belgium, 17 Sep 2013.
5. Contributed Talk: International Astronomical Union Symposium #302, Biarritz, France, 26 Aug 2013.
4. Science Today Colloquium, SUNY Oswego, Oswego, NY, 06 Feb 2013.
3. Contributed Talk: Dissertation Presentation - American Astronomical Society Meeting 221, Long Beach, CA, 08 Jan 2013.
2. Astrophysics Group Seminar, NORDITA, Stockholm, Sweden, 19 Dec 2012.
1. Astronomy Seminar, Uppsala University, Uppsala, Sweden, 13 Sep 2012.

# *Publications*

## Summary

24 peer-reviewed publications | 8 lead-author | 700+ citations | $h$-index = 15 | $i10$ = 17

## Invited Reviews

2. *Pre-Main-Sequence Stellar Structure and Evolution*
   **Feiden, G. A.** Pubs. of the Astronomical Society of the Pacific, Commissioned: Feb 2016, in prep.

1. *Empirical Tests of Pre–Main–Sequence Stellar Evolution Models with Young Eclipsing Binary Stars*
   Stassun, K. G., **Feiden, G. A.**, & Torres, G. 2014, New Astronomy Reviews, 60, 1.
   28 pp. — 34 citations — ADS

## Submitted/in-prep

† indicates student; drafts available by request

1. *Parametrizing the Influence of Starspots on Stellar Structure*
   **Feiden, G. A.** & Christophe, S.†, in preparation.

## Peer-reviewed articles

### Lead author

8. *Magnetic Inhibition of Convection and the Fundamental Properties of Low–Mass Stars. III. A Consistent 10 Myr Age for the Upper Scorpius OB Association*
   **Feiden, G. A.** 2016, Astronomy & Astrophysics, 593, A99.
   11 pp. — 28 citations – ADS

7. *Revised age for CM Draconis and WD 1633+572: Toward a resolution of model–observation radius discrepancies*
   **Feiden, G. A.** & Chaboyer, B. 2014, Astronomy & Astrophysics, 571, A70.
   7 pp. — 9 citations — ADS

6. *Magnetic Inhibition of Convection and the Fundamental Properties of Low-Mass Stars. II. Fully Convective Main Sequence Stars*
   **Feiden, G. A.** & Chaboyer, B. 2014, Astrophysical Journal, 787, 53.
   17 pp. — 39 citations — ADS

5. *Magnetic Inhibition of Convection and the Fundamental Properties of Low-Mass Stars. I. Stars with a Radiative Core*
   **Feiden, G. A.** & Chaboyer, B. 2013, Astrophysical Journal, 779, 183.
   25 pp. — 66 citations — ADS

4. *The Interior Structure Constants as an Age Diagnostic for Low-Mass, Pre-Main-Sequence Detached Eclipsing Binary Stars*
   **Feiden, G. A.** & Dotter, A. 2013, Astrophysical Journal, 765, 86.
   7 pp. — 5 citations — ADS

3. *Self-Consistent Magnetic Stellar Evolution Models of the Detached, Solar-Type Eclipsing Binary EF Aquarii*
   **Feiden, G. A.** & Chaboyer, B. 2012, Astrophysical Journal, 761, 30.
   15 pp. — 46 citations — ADS

2. *Reevaluating the Mass-Radius Relation for Low-Mass, Main Sequence Stars*
   **Feiden, G. A.** & Chaboyer, B. 2012, Astrophysical Journal, 757, 42.
   16 pp. — 59 citations — ADS

1. *Accurate Low-Mass Stellar Models of KOI-126*
   **Feiden, G. A.**, Chaboyer, B., & Dotter, A. 2011, Astrophysical Journal Letters, 739, L25.
   5 pp. — 41 citations — ADS

**Co-author**

15. *The Factory and the Beehive IV: A Low-Mass Eclipsing Binary in Praesepe Observed by PTF and K2*
    Kraus, A. L., et al. (inc. **Feiden, G. A.**), Astrophysical Journal, 845, 72.

14. *On the age of the magnetically active WW Psa and TX Psa members of the $\beta$ Pictoris association*
    Messina, S., et al. (inc. **Feiden, G. A.**) 2017, Astronomy & Astrophysics, 601, A54.
    12 pp. — 1 citation — ADS

13. *Testing Metal Poor Stellar Models and Isochrones with HST Parallaxes of Metal Poor Stars*
    Chaboyer, B., McArthur, B. E., O'Malley, E., et al. (inc. **Feiden, G. A.**) 2017, The Astrophysical Journal, 835, 152.
    24 pp. — 2 citations — ADS

12. *Zodiacal Exoplanets in Time (ZEIT) II: A "Super-Earth" Orbiting a Young K Dwarf in the Pleiades Neighborhood*
    Gaidos, E., Mann, A. W., Rizzuto, A. C., et al. (inc. **Feiden, G. A.**) 2017, Monthly Notices of the Royal Astronomical Society, 464, 850.
    12 pp. — 2 citations — ADS

11. *The rotation–Lithium depletion correlation in the $\beta$-Pictoris association and the LDB age determination*
    Messina, S., Lanzafame, A. C., **Feiden, G. A.**, et al. 2016, Astronomy & Astrophysics, 596, A29.
    8 pp. — 10 citations — ADS

10. *Zodiacal Exoplanets in Time (ZEIT) III: A Neptune-sized planet orbiting a pre-main-sequence star in the Upper Scorpius OB Association*
    Mann, A. W., Newton, E. R., Rizzuto, A. C., et al. (inc. **Feiden, G. A.**) 2016, Astronomical Journal, 152,

61.
17 pp. — 16 citations — ADS

9. *How to Constrain Your M Dwarf: Measuring Effective Temperature, Bolometric Luminosity, Mass, and Radius*
Mann, A. W., **Feiden, G. A.**, Gaidos, E., et al. 2015, Astrophysical Journal, 804, 64.
38 pp. — 96 citations — ADS

8. *Kepler-445, Kepler-446, and the Occurrence of Compact Multiples Orbiting Mid-M Dwarf Stars*
Muirhead, P. S., Mann, A. W., Morton, T. D., et al. (inc. **Feiden, G. A.**) 2015, Astrophysical Journal, 801, 18.
15 pp. — 18 citations — ADS

7. *Stellar Diameters and Temperature VI. High angular resolution measurements of the transiting exoplanet host stars HD 189733 and HD 209458 and implications for models of cool dwarfs*
Boyajian, T. S., von Braun, K., **Feiden, G. A.**, et al. 2015, Monthly Notices of the Royal Astronomical Society, 447, 846.
12 pp. — 27 citations — ADS

6. *The G+M Eclipsing Binary V530 Orionis: A Stringent Test of Magnetic Stellar Evolution Models for Low–Mass Stars*
Torres, G., Lacy, C. H. S., Pavlovski, K., **Feiden, G. A.**, et al. 2014, Astrophysical Journal, 797, 31.
16 pp. — 6 citations — ADS

5. *BANYAN. IV. Fundamental Parameters of Low-Mass Star Candidates in Nearby Young Stellar Kinematic Groups—Isochronal Age Determination Using Magnetic Evolutionary Models*
Malo, L., Doyon, R., **Feiden, G. A.**, et al. 2014, Astrophysical Journal, 792, 37.
17 pp. — 55 citations — ADS

4. *Characterizing the Cool KOIs. VI. H– and K–Band Spectra of Kepler M Dwarf Planet-Candidate Hosts*
Muirhead, P. S., Becker, J., **Feiden, G. A.**, et al. 2014, Astrophysical Journal Supplement, 213, 5.
12 pp. — 34 citations — ADS

3. *The Metallicity of the CM Draconis System*
Terrien, R. C., Fleming, S. W., Mahadevan, S., et al. (inc. **Feiden, G. A.**) 2012, Astrophysical Journal Letters, 760, L9.
6 pp. — 19 citations — ADS

2. *Age and helium content of the open cluster NGC 6791 from multiple eclipsing binary members II. age dependencies and new insights*
Brogaard, K., VandenBerg, D. A., Bruntt, H., et al. (inc. **Feiden, G. A.**) 2012, Astronomy & Astrophysics, 543, A106.
17 pp. — 88 citations — ADS

1. *Period-colour and amplitude-colour relations in classical Cepheid variables – V. The Small Magellanic Cloud Cepheid models*
   Kanbur, S., Ngeow, C., & **Feiden, G. A.** 2007, Monthly Notices of the Royal Astronomical Society, 380, 819.
   9 pp. — 8 citations — ADS

## Other academic articles

𝕀 indicates invited review.

11. 𝕀 *Stellar Evolution Models of Young Stars: Progress and Limitations*
    **Feiden, G. A.** (2015) in "Young Stars and Planets Near the Sun," IAU Symposium, 314.
    6 pp. — 3 citations — ADS

10. *Pilot Study: Assessing Student Perception of the Collaborative Annotation Platform* Open Rev *in a Classroom Environment*
    **Feiden, G. A.** (2015).
    9 pp. — Authorea

9. 𝕀 *Eclipsing Binaries as Tests of Low–Mass Stellar Evolution Theory*
   **Feiden, G. A.** (2015) in "Living Together: Planets, Host Stars, and Binaries," PASP Conference Series, 496, 137 – 151.
   15 pp. — 3 citations — ADS

8. *The Benchmark Eclipsing Binary V530 Ori: A Critical Test of Magnetic Evolution Models for Low–Mass Stars*
   Torres, G., Lacy, C. H. S., Pavlovski, K., **Feiden, G. A.**, et al. (2015) in "Living Together: Planets, Host Stars, and Binaries," PASP Conference Series, 496, 169 – 173.
   5 pp. — 1 citation — ADS

7. *Spectroscopic Study of the Low-Mass Benchmark Eclipsing Binary UV Piscium*
   **Feiden, G. A.**, Stempels, H. C., Hebb, L., et al. (2015) in "Living Together: Planets, Host Stars, and Binaries," PASP Conference Series, 496, 174.
   1 pp. — ADS

6. 𝕀 *Touchstone Stars: Highlights from the Cool Stars 18 Splinter Session*
   Mann, A. W., Kraus, A., Boyajian, T. S., et al. (inc. **Feiden, G. A.**) (2015) in proceedings of "The 18th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun," 80 – 104.
   25 pp. — 1 citation — ADS

5. *Updating the Dartmouth Stellar Evolution Model Grid: Pre-Main-Sequence Models & Magnetic Fields*
   **Feiden, G. A.**, Jones, J.,† & Chaboyer, B. (2015) in proceedings of "The 18th Cambridge Workshop on Cool Stars, Stellar Systems, and the Sun," 171 – 176.
   3 pp. — 5 citations — ADS

4. *Prospects for the BANYAN search of low-mass moving group members with Gaia, and the importance of magnetic fields for isochrone age determination*
   Malo, L., Gagne, J., Doyon, R., et al. (inc. **Feiden, G. A.**) (2014) in "*Gaia* and the Unseen. The Brown Dwarf Question," MmSAI, 85, 715.
   4 pp. — 2 citations — ADS

3. *Do Magnetic Fields Actually Inflate Low-Mass Stars?*
   **Feiden, G. A.** & Chaboyer, B. (2014), in "Magnetic Fields Throughout Stellar Evolution," IAU Symposium, 302, 150.
   4 pp. — 1 citation — ADS

2. *Magnetic Field Induced Radius Inflation of Low-Mass Stars*
   **Feiden, G. A.** & Chaboyer, B. (2013) in "Setting a new standard in the analysis of binary stars," EAS Publication Series, 64, 127.
   4 pp. — ADS

1. *Parallaxes of metal-poor main-sequence stars*
   Chaboyer, B., **Feiden, G. A.**, Benedict, G. F., et al. (2013), in "Advancing the Physics of Cosmic Distances," IAU Symposium, 289, 87.
   4 pp. — ADS

## Other academic works

1. *Dartmouth Magnetic Evolutionary Stellar Tracks and Relations*
   Feiden, G. A. (2013) PhD Thesis, ProQuest, 343 pp., ISBN 9781303770432.

*compiled on: November 15, 2017*