

# Evan C. Mascitti

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## Summary

I am in year 4 of earning my PhD in soil science at Penn State. I worked as a sports turf manager for several years before returning to graduate school. My current research focus is engineered soil mixtures for use on baseball fields. After completing my PhD, I plan to continue my career as an academic scientist with both teaching and research activities.

## Education

### **Ph.D (ABD), Soil Science - Penn State University**

- Expected graduation May 2023
- Dissertation title: "Design and performance of soil mixtures for baseball infields"
- Graduate Student Teaching Certificate (September 2022)
- Graduate Student Online Teaching Certificate (May 2020)

### **M.S., Agronomy - Penn State University (2014)**

- Thesis title: "Effects of pre-harvest cultural practices on the divot resistance of thick-cut Kentucky bluegrass sod"

### **B.S., Geology - Beloit College, Beloit, WI (2012)**

- *Magna Cum Laude*
- Environmental Studies Minor
- Senior thesis title: "Temporal and geochemical controls of tufa deposition, southwestern Wisconsin"

# Employment

## Pennsylvania State University

University Park, Pennsylvania (January 2019-present)

- *PhD student and graduate assistant*
  - Independent research on physical properties of engineered infield soils
  - Laboratory instructor for Intro to Soils and teaching assistant for Turfgrass Edaphology
  - Other research and teaching duties as assigned

## Pittsburgh Pirates Baseball Club (August 2016-December 2018)

Pittsburgh, Pennsylvania

- *Manager of Field Operations* (April 2018- December 2018)
  - Daily upkeep of the MLB playing surface at PNC Park, home of the Pittsburgh Pirates. Maintain turf and skinned areas, coordinate tarp deployment, monitor irrigation, apply fertilizer and pesticides, service/repair equipment, maintain chemical inventory and supervise non-baseball events. Hire, train, schedule, and oversee union staff and interns.
- *Supervisor of Field Operations* (August 2016- April 2018)
  - *c.f. above*

## Gwinnett Braves Baseball Club (January 2016-August 2016)

Lawrenceville, Georgia

- *Assistant Sports Turf Manager*
  - Maintenance of the playing surface at Coolray Field, home of the AAA Gwinnett Braves <sup>1</sup>. Duties comparable to those described above for PNC Park.

## H&K Sports Fields (January 2015-January 2016)

Madison, Wisconsin

- *Project Manager*
  - Coordinate and implement sports field renovations. Worked and/or consulted on >100 athletic fields in 2015 while generating \$178,000 of new contracts. Specific responsibilities included: specify and order materials, operate laser grading equipment, devise turfgrass maintenance programs, evaluate soil conditions through sampling/testing/analysis, cultivate relationships with clients, provide field maintenance training, and manage company blog and social media platforms.

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<sup>1</sup> Franchise name later changed to Gwinnett Stripers

## **New York Mets Baseball Club (May 2014-October 2014)**

Flushing, New York

- *Turf and grounds intern*
  - Maintenance of the MLB playing surface at Citi Field. Additional responsibilities included maintenance of hydroponic vegetable garden and outdoor landscapes.

## **Penn State University (August 2012-December 2014)**

University Park, PA

- *Graduate assistant*
  - Performed experiments at the Center for Sports Surface Examples include traction testing at NFL stadiums, small-plot trials, lab analysis of soil samples per ASTM protocols, and maintenance of turfgrass greenhouse.
  - Served as Lab Instructor for introductory soils and turf courses. Lectured on technical concepts, supervised lab exercises, led field trips, and managed grades. Received 6.6 out of 7 instructor rating (Spring 2014).
- M.S. thesis: Effects of pre-harvest cultural practices on the divot resistance of thick-cut Kentucky bluegrass sod. Published in refereed [International Turfgrass Research Journal](#) (Nov. 2017) and summarized in [Sports Turf Magazine](#) (May 2016).

## **Skills and Expertise**

- Applied turfgrass and soils research; design of experiments; method development
- Expertise in soil physical properties
- Proficiency with a variety of computer software including languages for data science (R, Python, Bash, SAS, SQL), markup and typesetting (Markdown, LaTeX, Pandoc), pipeline automation (GNU Make), version control (Git), basic web design (HTML5, CSS3), and Microsoft Office
- Effective communication through oral, written, and graphical means. Basic Spanish language competency
- Personnel management, including hiring, training, scheduling, and payroll
- Management of cool- and warm-season turfgrass
- Laser grading/construction/renovation/maintenance of infield skin, pitcher's mound, and home plate areas

## Publications

### Refereed papers

**Mascitti, E.C.**, McNitt, A.S., and Serensits, T.J., 2017. Divot resistance of thick cut sod as influenced by preharvest nitrogen and sand topdressing. *International Turfgrass Society Research Journal*. 13: p. 1-8. <https://doi.org/10.2134/itsrj2017.01.0010>

### Submitted for peer-review

**Mascitti, E.C.**, McNitt, A.S. 2022, and Drohan, P.J. Coarse additions affect the plasticity and toughness of soil mixtures, Part I: Particle size. Submitted August 2022 to *Soil Science Society of America Journal*.

**Mascitti, E.C.**, McNitt, A.S. 2022, and Drohan, P.J. Coarse additions affect the plasticity and toughness of soil mixtures, Part II: Sand angularity and sand-size uniformity. Submitted August 2022 to *Soil Science Society of America Journal*.

### Manuscripts in preparation

**Mascitti, E.C.** and McNitt, A.S. 2022. A laboratory method to measure surface disturbance of baseball infield soils by cleated footwear. Planned submission to *Journal of Sports Engineering and Technology*.

**Mascitti, E.C.** and McNitt, A.S. 2022. Effect of particle size distribution and clay mineralogy on behavior of drying baseball infield soils. Planned submission to *Soil Science Society of America Journal*.

**Mascitti, E.C.** and McNitt, A.S. 2022. Toughness of sand-clay mixtures under unconfined compression as a function of water content. Planned submission to *Applied Clay Science*.

### Trade magazine articles

**Mascitti, E.C.** What is clay? *SportsField Management Magazine*. October issue. <https://sportsfieldmanagementonline.com/2021/10/12/what-is-clay/13123/>

**Mascitti, E.C.** and McNitt, A.S., 2021. Dissecting infield playability. *SportsField Management Magazine*. March issue. <https://sportsfieldmanagementonline.com/2021/03/15/dissecting-infield-playability/12504/>

- also reprinted in the following periodicals:
  - Pennsylvania Turfgrass, Spring 2021
  - North Carolina Turfgrass, May/June 2021
  - Tennessee Turfgrass, April/May 2021
  - Mississippi Turfgrass Association Magazine, Summer 2022

**Mascitti, E.C.**, McNitt, A.S., and Serensits, T.J., 2016. Lean and mean: Sod production for in-season field replacements. *SportsTurf Magazine*. <https://sportsfieldmanagementonline.com/2016/05/31/lean-and-mean-sod-production-for-in-season-field-replacements/8035/>

## Blog posts

Available at [evan-soil.io/blog](https://evan-soil.io/blog).

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## Grant funding

### 2020

- Proposal title: Novel methods for baseball infield soil testing.
  - Source: Foundation for Safer Athletic Fields for Everyone (SAFE).
  - Funding received: \$4,978.
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## Technical presentations:

### 2022

- Design and performance of soil mixtures used on baseball infields. Penn State Dept. of Ecosystem Sci. & Mgmt. Seminar (University Park, PA). April 25.

### 2021

- A new laboratory method for measuring surface disruption of baseball infield soils. ASA, CSSA and SSSA Annual Meetings (Salt Lake City, UT). November 9. [\[Recording link\]](#)

### 2020

- Effect of oversize particles on Atterberg limits of engineered soil mixtures for baseball and softball infields. ASA, CSSA and SSSA Annual Meetings (Virtual). November 9. [\[Recording link\]](#)

### 2017

- Divot Resistance of Thick Cut Sod as Influenced by Preharvest Nitrogen and Sand Topdressing. 13th International Turfgrass Society meeting: New Brunswick, NJ. July 18.

### 2014

- The effects of pre-harvest cultural practices on the divot resistance of thick-cut Kentucky bluegrass sod. Master of Science thesis defense. Presented in partial fulfillment for a Master of Science degree in Agronomy: Penn State University, University Park, PA. December 13. 2017

- Divot resistance of thick-cut sod as influenced by pre-harvest cultural practices. ASA, CSSA and SSSA Annual Meetings: Long Beach, CA. November 4.
- Turf with an Attitude: Sod Production for American Football Fields. Plant Science departmental seminar: Penn State University, University Park, PA. April 18.

## **2012**

- Temporal controls of tufa deposition, southwestern Wisconsin. Undergraduate thesis defense. Presented in partial fulfillment for a Bachelor of Science degree in Geology: Beloit College, Beloit, WI April 26.
- Using water to study rocks: temporal controls of tufa deposition, southwestern Wisconsin. 36th Annual undergraduate research symposium: Beloit College, Beloit WI. April 12.

## **Extension/outreach presentations:**

### **2022**

- Soil science on the infield. Penn State Landscape & Ornamentals Field Day: Medlar Field, University Park, PA. July 29.
- Infield maintenance and materials. Keystone Athletic Field Managers Organization Field Day: White Township, Indiana, PA. June 22.
- Novel lab tests for baseball and softball infield mixes. Sports Field Management Association: Savannah, GA. January 18.
- The Performance of Infield Soils - From Materials Selection to Proper Maintenance. Keystone Athletic Field Managers Organization: East Earl, PA. February 18.

### **2021**

- Infield skin maintenance. Keystone Athletic Field Managers Organization Field Day: Reading, PA. September 16.

### **2020**

- Maximizing the performance of sports turf with plant growth regulators. PA Turf and Ornamentals School: Grantville, PA January 27.

### **2016**

- Developing performance standards for athletic turf. Georgia Sports Turf Managers Association Field Day: Precision Turf Farms, Braselton, GA. July 20.

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## Guest lectures and invited presentations:

### 2022

- Infield materials, construction, and maintenance. TURF 436W guest lecture (Prof. Pete Landschoot). April 26.

### 2021

- Infield skin construction and maintenance. TURF 434 guest lecture (Prof. Andy McNitt). Nov. 3.
- Dissecting infield playability. FieldTurf sponsored webinar. April 7.

### 2020

- Penn State turfgrass science alumni panel. Live stream via Penn State College of Agricultural Science. Oct. 22.
- Engineered soils Q & A. Live YouTube broadcast by Beacon Athletics and DuraEdge Products. May 5. Recording available at <https://www.youtube.com/watch?v=nW4q4CZ1v-c>
- Snacks, soil, and surface area. SOILS 071 (Environmental Sustainability) guest lecture: Penn State University. January 21.
- History of the STMA and baseball field dimensions. Penn State STMA Student Challenge training: University Park, PA. January 13.

### 2019

- Soil physical properties for athletic fields. Penn State STMA Student Challenge training: University Park, PA. November 4.

### 2017

- What's grad school all about? Beloit Collge Advising Day: Beloit, WI. March 24.
- Student-athlete alumni panel. Beloit Collge Advising Day: Beloit, WI. March 24.

## Podcast interviews

### 2022

- Early-season infield care and material selection. *Cornell Turfgrass Show 2022*: Episode 4. [[Recording link](#)]

## 2021

- Safe baseball infields. *Cornell Turfgrass Show 2021*: Episode 10. [[Recording link](#)]
  - What makes a quality infield mix? *Fresh Cut Grass*: Season 1, episode 9. [[Recording link](#)]
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## Honors and Scholarships

- Dr. James Watson Graduate Scholarship (Sports Field Management Association, 2022)
- C. Reese Berdanier Endowed Award (Penn State University, 2019)
- George Hamilton Graduate Fellowship (Penn State University, 2019-present)
- Penn State Graduate Student Assistantship- full tuition remission plus stipend (2012-2014)
- Waddington-Harper Scholarship - awarded to outstanding students who plan careers in sports turf management (Keystone Athletic Field Managers Organization, February 2014)
- Joe Kobyłka Award – given to a student-athlete who has best exemplified the qualities of sportsmanship and team spirit throughout their career (Beloit College, May 2012)
- Phi Beta Kappa academic honor society (Beloit College, May 2012)
- Eagle Scout Rank (Boy Scouts of America, 2006)

## Industry service

- Sports Field Management Association Minor League Baseball Groundskeeper Education task force member (Sept. 2021-present). Development educational documents for construction and maintenance BMPs.

## Professional Memberships

- Sports Field Management Association (2012-present)
  - American Society of Agronomy/Crop Science Society of America/Soil Science Society of America (2014-present)
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## Personal interests

- History and philosophy of science
- Fitness



- Cooking
- Outdoor adventures