



## Travel Grant Application Checklist

Make sure your Travel Grant Application document contains the following items:

- ☒ **Statement**
- ☒ **Abstract** (required if you will be presenting)
- ☒ **Anticipated Budget**
- ☐ **Exceptions** (if applicable)
- ☒ **Letter of Acceptance** (optional)
  
- ☒ In addition, forward the Faculty Recommender the link to the online **Letter of Recommendation**: [http://gpsc.arizona.edu/TG\\_Fac\\_Rec](http://gpsc.arizona.edu/TG_Fac_Rec)

**Reset Fields**

## **Graduate and Professional Student Council Travel Grant Fund Application Coversheet**

<http://www.gpsc.arizona.edu/>

### **Personal Information (required)**

---

**Last Name:** Casillas

**First Name:** Joseph

**Major** (do not use abbreviations): Hispanic Linguistics

**Department** (do not use abbreviations): Spanish and Portuguese

**Faculty Member Recommender:** Dr. Miguel Simonet

**Total Graduate Units Completed at U of A:** 67

**Cumulative Graduate GPA:** 4.0

### **Event Information (required):**

---

**Event** (do not use abbreviations): Hispanic Linguistics Symposium 2014

**Event Date(s)** (MM/DD/YYYY; e.g., 01/09/2010): From 11/13/2014 to 11/16/2014

**Event Location:** Purdue University in West Lafayette, Indiana

### **Funding Information (required):**

---

**Other Sources of Funding:** I have not received any other sources of funding; however, I have applied to the Second Language Acquisition and Teaching travel grant.

**Total Amount Requested from GPSC Travel Fund:** \$500.00

Provide your **statement** below:

#### Event Overview

The University of Purdue is hosting the Hispanic Linguistic Symposium (HLS) on November 13th through November 16th of this year. This conference brings together researchers interested in all areas of linguistics, with a special focus on Spanish and Portuguese. As one of the leading conferences in my field, it aims at providing an interdisciplinary forum for discussion of anything related to Hispanic Linguistics, such as language variation and change, speech pathology, speech technology, the phonology-phonetics interface and laboratory phonology research. As a PhD student at the University of Arizona, it is a great honor for me to have been selected to present a co-authored paper entitled "A contrastive acoustic analysis of dental and alveolar stops in Spanish and English" at this prestigious conference.

#### Overview of research

This presentation builds on previous research I conducted with my advisor and presented this Summer in Dublin, Ireland, in which we examined the productive abilities of early-onset Spanish/English bilinguals. Specifically, the work we will be presenting at HLS deals with the consonants 'b', 'd', 'g', 'p', 't' and 'k' in English and Spanish. While both Spanish and English possess a contrast between fortis (/p t k/) and lenis (/b d g/) stop consonants, how these contrasts are produced differs for the two languages. Moreover, where these consonants are produced (i.e. the place of articulation) varies for each language. This study analyzes audio recordings in order to determine which acoustic correlates account for the difference in place of articulation. This is the first study, to our knowledge, that examines this difference.

#### Anticipated budget

In order to share this research with some of the leading scholars in my field (specifically Cathy Best and Jim Flege), I am soliciting a travel grant from the Graduate Student and Professional Council (GPSC). Being that the conference takes place outside of Arizona, I must travel by plane. I will be flying from Tucson, AZ to Indianapolis, ID. As I have outlined in my budget, the cost of airfare alone will constitute the money I hope to obtain from the GPSC travel grant. In order to cover the remaining costs, I have also applied for a travel grant from the Second Language Acquisition and Teaching (SLAT) program, which is my minor. The money I hope to obtain from the SLAT travel grant will cover the hotel, travel and per diem expenses.

Presenting at HLS will provide me with professional experience at a prestigious conference and will allow me the opportunity to share my research with many of the phoneticians who have inspired my work, such as José Ignacio Hualde, Cathy Best, and Jim Flege. Their feedback will be helpful in guiding my future research. Thank you for considering my travel grant request and for helping to foster academic and professional development.

**Statement**, continued:

Provide your **abstract** below:

#### A contrastive acoustic analysis of dental and alveolar stops in Spanish and English

While both Spanish and English possess a contrast between fortis (/p t k/) and lenis stops (/b d g/), the phonetic implementation of the contrast differs for the two languages. According to one view, the phonological opposition in English depends on the feature [spread glottis], which is specified for the fortis stops but not for the lenis ones; on the other hand, the Spanish contrast depends on [voice], which is specified for the lenis stops but not for the fortis ones (Beckman et al., 2011).

The primary acoustic-phonetic correlate of the fortis-lenis contrast is Voice Onset Time (Lisker & Abramson, 1964). Voice Onset Time (VOT) is a correlate of both the features [spread glottis] and [voice], which makes this correlate able to capture the difference between Spanish and English stops in general. The differences between Spanish and English with respect to how they use VOT in stops are well known. However, it is also well known that English and Spanish stops do not merely differ on the use they make of VOT. There is one important difference in addition to VOT: Spanish /d/ and /t/ are described as “dental” and English /d/ and /t/ are described as “alveolar”. These descriptions are largely based on impressionistic observations. In addition to VOT, what other acoustic correlates may be exploited to distinguish between Spanish and English (coronal) stops? We are not aware of any phonetic study of this difference between Spanish and English—there is, however, one such study for French (Sundara, 2005). The main goal of the present study is to provide careful acoustic measurements of Spanish and English coronal stops that may be used in the future to investigate further questions regarding Spanish and English /d/ and /t/, including their use by bilingual populations.

Using professional equipment, 7 female native speakers of English were recorded in North America and 7 native speakers of Spanish were recorded in Spain. Speakers produced target words in utterance-initial position, in carrier phrases such as “\_\_ es la palabra” and “\_\_ is the word”. There were 12 words with word-initial /d/ and 12 with word-initial /t/ in each language. Word-initial syllables were manipulated for lexical stress, with equal number of words in two target categories: stressed first syllable, unstressed first syllable. Production data were collected with the delayed shadowing technique—six male “talkers” (3 Spanish, 3 English) recorded the materials while reading from a list and these “stimuli” were then played in random order to the speakers, who were asked to “listen and repeat the sentences”. Each speaker provided the dataset with 144 observations for a total of 2016 tokens recorded and examined. The data were submitted to acoustic scrutiny; in addition to VOT, we analyzed the statistics of the spectrum of the burst (30 ms Gaussian window left-aligned with the burst). The selected measurements were: center of gravity, skewness, kurtosis, standard deviation and central moment. This resulted in a dataset of 2016 (tokens) \* 5 (metrics) = 10080 data observations.

The data indicated the following: standard deviation and central moment of the spectra contributed to the contrast between Spanish and English coronal stops, center of gravity, skewness and kurtosis did not. Of course, VOT was a strong predictor, capable of distinguishing even between Spanish /t/ and English /d/ (both of them short-lag VOT categories). This was established with separate factorial analyses for the 5 acoustic metrics. A follow-up analysis took a scalar logistic regression approach in which the acoustic metrics were used as predictors rather than as dependent variables. This analytical approach showed that standard deviation of the spectrum was the strongest acoustic correlate of dental vs. alveolar place (this predictor improved the model by 26%); the next best predictor was VOT (which contributed an additional 11.3% of the variance). Other predictors had either minimal or no predictive power.

**Abstract**, continued:

The present study examined the acoustics of Spanish and English /d/ and /t/. In particular, it set out to find acoustic metrics that captured the possible place-of-articulation difference between Spanish and English coronal stops. The metrics that were identified may then be used to address further questions regarding these sounds and how they are used by different populations. Now that we know how to measure this from acoustic data, a remaining question among many follows: Do Spanish- English bilinguals produce Spanish and English coronal stops with different places of articulation?

**GPSC Travel Grant Budget**

<b>Applicant Name:</b> Joseph Casillas				
<b>Conference Title:</b> Hispanic Linguistic Symposium	<b>Date From:</b> 11/13/2014	<b>Date To:</b> 11/16/2014	<b>Current Request to GPSC</b>	<b>Total Budget</b>
Airfare (a): United airways flight 5226 Tucson, AZ to Indianapolis, IN			500.00	500.00
Hotel (b): Red Roof Inn West Lafayette, IN (Final estimate includes tax)				
59	x	3	night(s)	0.00
Per Diem (c): Per diem allowance according to State of AZ Meals/Lodging Per Diem Allowances				
34	x	4	day(s)	0.00
Car / Local Transportation (d):				
Lafayette Limo (bus service) Round trip to hotel from airport			0.00	50.00
Conference Registration: Early registration (student)			0.00	120.00
Other (Specify):				
<b>TOTAL BUDGET</b>				<b>1006.00</b>
Funding from GPSC**				500.00
Funding from Other Sources (include pending): Second Language Acquisition and Teaching Travel Fund				500.00
Funding from Own Pocket				6.00
<b>TOTAL FUNDING (Must match total budget)</b>				<b>1006.00</b>

**EXCEPTIONS:** Travel involving the following, regardless of the source of funding, must be explained and approved on the travel authorization form you submit to your Department (FRS Departmental Manual § 14.10, par. 12).

- ☐ Long term travel status – if travel will exceed 30 days, state reason
- ☐ Personal time, state reason and how long
- ☐ Use of other than coach/economy travel on commercial airlines, state reason
- ☐ Vehicle taken out of state (whether private, rented or state-owned), state reason
- ☐ Lodging charges in excess of established policy limits, which is not designated lodging as shown on a conference brochure, state reason
- ☐ \*Foreign travel, excluding Canada and Mexico, on State accounts
- ☐ Private Aircraft (§14.15) state reason and contact travel
- ☐ Use of chartered/rented aircraft and rented motor vehicle (§ 14.15) state reason

**JUSTIFICATION MEMO**



Notes:

(a) Airfare includes domestic and international flights.

(b) A maximum of **three nights** hotel stay will be covered.

(c) A maximum of **four days** will be covered. Calculated based on the US GSA current Per Diem for where you are traveling.

(d) Car travel should be calculated based on the US GSA. If renting, contact the GPSC Travel Grants Director at [gpscgrant@email.arizona.edu](mailto:gpscgrant@email.arizona.edu)

**\*\*The committee will award up to \$500.00 per student, even though the cost of attending the conference may exceed that amount.**

These and all other expenses must be in accordance with The University of Arizona guidelines for travel, available at: <http://www.fso.arizona.edu/travel.html>

Provide a **Letter of Acceptance** below, if presenting:

It is our pleasure to inform you that your paper, entitled "A contrastive acoustic analysis of dental and alveolar stops in Spanish and English", has been accepted for a Poster Presentation at the 2014 Hispanic Linguistics Symposium at Purdue University. Please let us know by August 25th if you plan on attending by following this link: [https://purdue.qualtrics.com/SE/?SID=SV\\_8kNA376NO3dITHD](https://purdue.qualtrics.com/SE/?SID=SV_8kNA376NO3dITHD)

This year we received over 225 abstracts and were only able to accept about one third for Oral Presentations. Each abstract was rated by two external reviewers from the field.

As a reminder, registration and information are available here:  
[http://www.conf.purdue.edu/landing\\_pages/hls/](http://www.conf.purdue.edu/landing_pages/hls/)

We look forward to seeing you in November!

Sincerely,

The HLS 2014 Organizing Committee  
Alejandro Cuza, Lori Czerwionka, and Daniel J. Olson