## The Atlas

An Entirely Student-Driven Guide to the
Program in Neural Computation (PNC) and
Program in Systems Neuroscience (PSN) of
the Neuroscience Institute at Carnegie Mellon
University

To you, the reader.

Science does not exist without Graduate Students.

## Contents

Di	isclaimer	vii
Pı	reface	viii
C	ontributors	ix
Ι	Prospective Students	1
1	Organizational Structure Tomas Suarez Omedas	3
	<ol> <li>Neuroscience Institute - CMU</li> <li>The Dietrich College - CMU</li> <li>Center for the Neural Basis of Cognition - CMU &amp; Pitt</li> <li>Center for Neuroscience University of Pittsburgh - Pitt</li> </ol>	3 3 4 4
2	Why CMU and Pittsburgh? Tomas Suarez Omedas	5
	2.1 Program funding/support 2.2 A unique place for science 2.3 About Pittsburgh (general) 2.4 Cost of living	5 5 6
3	Arriving and Moving to Pittsburgh  Tomas Suarez Omedas  3.1 Arriving to Pittsburgh 3.1.1 Driving 3.1.2 Flying  3.2 Living in Pittsburgh  3.3 Do I need a car?	7 7 7 7 8 8
П	I Incoming Students	9
4	Transitioning to Graduate School  Tomas Suarez Omedas  4.1 How to be an expert in your field	11 11 12

vi	Conte	ents
5	Insurance and Taxes Tomas Suarez Omedas	13
	5.1 Insurance	13
	5.2 Taxes	14
6	Apartments and Renting	15
	Tomas Suarez Omedas	
	6.1 Areas to Live	15
	6.2 Rent Prices	16

## Disclaimer

As implied in the title, the contents of this guide are written for graduate students of the PNC and PSN by graduate students of the PNC and PSN.

The contents of this guide **do not** represent any formal or official position(s) held by the Neuroscience Institute, Dietrich College of Humanities and Social Sciences, the Center for the Neural Basis of Cognition, the faculty and staff who represent these institutions, nor Carnegie Mellon University as a whole. As such, any questions, comments, or concerns about its content should be directed to the current maintainers of *The Atlas*, whose information can be found here (link)

## Preface

Graduate school is a *Choose Your Own Adventure* of high highs, low lows, and many million emotions in between. We (NISO at-large) feel that the CMU NI, with its deep roots in iconic fields of research spanning countless relevant fields to cognitive science and computational neurosciences – namely in computer science and computational thinking – is a uniquely attractive institution to train in Computationally-driven hypotheses and methodologies. Our sister school and co-founder of the Center for the Neural Basis of Cognition (CNBC) The University of Pittsburgh is a Tier 1 Research Institution, and its hospital system, The University of Pittsburgh Medical Center (UPMC), unite to make Pittsburgh and these programs in particular especially attractive. It's a good place to follow your greatest adventures!

Staff and administrators, bless them, serve a fundamentally different role within the Neuroscience Institute (NI). With it being early days of the new Institute's foundation, we want to develop a strong student culture from the offset. A common request from students of the PNC and new PSN programs is some form of support – whether it be FAQ, how to move to Pittsburgh, etc., all compiled in one place. That's where *The Atlas* comes in!

Its origins can really be traced back to PNC/ML's Arish Alreja, a former colleague and large inspiration for the birth of this idea (originally as a Plan of Study to navigate the PNC/ML track specifically). I owe him a crumpet! Thanks, Arish.

For some, Graduate School is a cakewalk. For others (like me!), it's a struggle for a while until you find the right recipe, so to speak. I wish this guide existed for me, basically.

Longer version in the official 1.0 release for May 2022!)

## Contributors

Please contact the current Neuroscience Institute Student Organization Vice Presidents of Graduate Student Life with any questions, comments, suggestions, or concerns with the document

#### Timothy Nolan

Program in Neural Computation tnolan@andrew.cmu.edu +1 (860) 490-8972

#### Tomás Suárez Omedas

Programs in Systems Neuroscience tsuarezo@andrew.cmu.edu +1 (786) 489-8168

Special thanks to past contributors (do not contact about this document)

#### Arish Alreja

Joint Program in Neural Computation and Machine Learning

# Part I Prospective Students

## 1

## Organizational Structure

#### Tomas Suarez Omedas

VP of Student Life for PSN

#### **CONTENTS**

1.1	Neuroscience Institute - CMU	
1.2	The Dietrich College - CMU	;
1.3	Center for the Neural Basis of Cognition - CMU & Pitt	4
1.4	Center for Neuroscience University of Pittsburgh - Pitt	4

In the marvelous CMU-verse, there are many organizational bodies that coexist and interact with one another. We will discuss some names and acronyms that you might have encountered or will encounter in this conglomerate: CNBC, NI, CNUP, Dietrich College.

#### 1.1 Neuroscience Institute - CMU

The Neuroscience Institute (NI) is the main organization that the students of the PNC and PSN belong to. As of the moment of this writing, the NI does not have undergraduate program(s), so it is comprised of the graduate students in the PSN and PNC, plus the professors of several departments with neuroscience-related research. The NI students are organized by the Neuroscience Institute Student Organization (NISO) which is an organization made by and for CMU neuroscience students.

#### 1.2 The Dietrich College - CMU

For reasons that escape our understanding, the NI belongs to the Dietrich College of Humanities and Social Sciences, **not** to Mellon College of Science.

Other departments/institutes in Dietrich College are History, English, Philosophy, Economics and more. Maybe you would think that we should always be surrounded by scientists and that this is a waste of time, but actually Dietrich people are very nice and make fun events. Not all in life is science.

# 1.3 Center for the Neural Basis of Cognition - CMU & Pitt

Probably the most complicated structure of all, the Center for Neural Basis of Cognition (CNBC) is a cross-institution hub that serves as platform for all neuroscience researchers to share data and progress, talk, collaborate and keep one of the largest neuroscience communities in the nation. To join the CNBC, the students of most programs need to take four specific classes and then they get their CNBC certificate. In the case of NI students, we form part of the CNBC automatically just by being part of the NI (we still have to pass the courses). All members of CNBC get \$1,000 to buy a new computer and some years the NI gives first year students an additional \$750 to improve the power of that computer. Because of the CNBC's collaborative qualities, NI students have access to all of the neuroscience related labs at CMU plus all Pitt labs that are part of the CNBC and access to any Pitt class relevant to student's interests and research. Being part of a lab at Pitt (even if it is your primary research lab) does not change your status as a NI and CMU student in any matter like program requirements, facility access, etc.

# 1.4 Center for Neuroscience University of Pittsburgh - Pitt

The analog of the Neuroscience Institute at Pitt is the Center for Neuroscience University of Pittsburgh (CNUP). They have access to the same labs and research resources that NI students do. The two main differences of NI to CNUP are that NI programs have a stronger computational-oriented perspective and that CNUP has many more classes to take through the whole program compared to NI. In any case, they are a nice bunch and good people to get beers with.

## Why CMU and Pittsburgh?

#### Tomas Suarez Omedas

Emperor of Student Life

#### **CONTENTS**

2.1	Program funding/support	5
2.2	A unique place for science	5
2.3	About Pittsburgh (general)	6
2.4	Cost of living	6

Our first impulse to answer that question was "Why not?" but then we figured that it would probably be a good thing to have actual answers here, so here we go.

#### 2.1 Program funding/support

Ph.D students in the NI have an stipend of 33K a year at the time of this writing. In total honesty, we will not talk here of how much we are truly due but 33K is in the high end of the Ph.D stipend spectrum. If you want to talk about how much we are due find a beer and contact the authors of this Atlas to get a nice afternoon of ranting. See section 2.4 to see why the cost of living makes this stipend be more efficient.

#### 2.2 A unique place for science

For the non-lazy readers that went over Chapter 1, you know that there are many, *many* organizations in different levels. The actual purpose of that many acronyms is to bring many people (and its a lot of people) into what is sometimes called a *neuroscience hotbed*. It is ridiculous the amount of labs, ques-

tions, seminars and journal clubs available to every single CMU NI student. Adding the hotbed ingredient with a glorious easiness of collaboration plus knowing that the labs around here have a lot of money for top-notch equipment, we can say that the science at the NI is unique and fantastic.

#### 2.3 About Pittsburgh (general)

In the unilateral vision of the author of this section, Pittsburgh is a *sweet spot* in terms of most things that you can measure a place to live with. It the sweet spot between a big city and a town, not too big to be overwhelming and expensive but not to small to feel like there is barely anything to do. It is the sweet spot between a college town and a city without big schools, the student population is large but at the same time there is a lot of non-student-related activities and people in the city. It is a sweet spot in traffic and mobility, moving with a car is easy and not prohibitive by traffic but at the same time it is very easy to move around by public transport, walking and biking. It is a sweet spot... alright you probably get the point. To summarize in one sentence: Pittsburgh is a city that is big and diverse enough for you to never be bored, but not too big and frantic for you to be distracted/overwhelmed. For a more detailed picture of how is life in the city, check section 3.2 Living in Pittsburgh

#### 2.4 Cost of living

Living in Steel City is an exciting, cool and affordable experience. A quick survey of CMU peers tells us that we live with our 30K stipends comfortably. Most of us can pay rent, groceries, entertainment and dinning with that income alone, which truly cannot be said for many urban-based institution in the US. Rent is much, much cheaper than rent in bigger cities. One bedrooms and studios in the student-dense areas usually range in the \$900-1300, and if you don't mind sharing with roommates then the rents come around \$700-1200 a month. You don't believe us? Then check out Apartments.com and look for apartments in Shadyside, Squirrel Hill and North Oakland.

Besides rent, Pittsburgh is an amazing place in terms of cost of living and purchasing power adjusted to cost of living. On Numbeo Database you can see that Pittsburgh's index for rent is very low and the purchasing power index is very high.

## Arriving and Moving to Pittsburgh

#### Tomas Suarez Omedas

Your friendly Student Life neighbor

#### CONTENTS

3.1	Arriving to Pittsburgh	7
	3.1.1 Driving	
	3.1.2 Flying	
3.2	Living in Pittsburgh	
3.3	Do I need a car?	8

Welcome to the amazing metropolis of Pittsburgh. If you have questions of how to get here from air or land, questions of how to move here or 8 minutes to kill, we recommend you to read this chapter.

#### 3.1 Arriving to Pittsburgh

"nobreak

#### 3.1.1 Driving

Just put the address on Google Maps, not that complicated. Also, most Pittsburgh streets are both-ways single lanes. That gives rise to the famous Pittsburgh left. Read that link if you plan to drive in Pittsburgh.

#### **3.1.2** Flying

Coming from Pittsburgh International Airport is a very easy and painless form of travel. Once you arrive at PIT, you can choose to get to the city by Uber/Lyft or by bus. If you want to use the bus go to the lower level (where the baggage carousels are) and look for a sign that says door 6 (the sign is outside on the opposite side of the 7-Eleven) and wait for the bus. Use the Transit

app to track the 28X bus, and each ride costs \$2.75 in cash. Recommendation: Get a snack from 7-Eleven while waiting. If you are taking Uber/Lyft go to the same door and get message the driver that you'll be on the lower level. They might say that the upper level is best for them, so make sure you the driver knows where you are.

#### 3.2 Living in Pittsburgh

You'll find (or have already found) that Pittsburgh is a very walk-able and well connected small city. The city is organized by having one street (also called strip) in most areas-towns, each having their own personality and combination of dining places, bars, clubs and more. There is always a new place to look and some unique specialty you haven't tried yet, which makes the life outside of campus very interesting and local-oriented at the same time. Most restaurants in the city are small locally-owned businesses which contributes to the personality and charisma of the city itself. It is a city that always has something to do in terms of outdoor activities, concerts, dining, entertainment and more while not having monumental traffic jams and non-stop big-city frenetic activity.

#### 3.3 Do I need a car?

Quick answer, no. Pittsburgh's public transport works very well, and specially with a student ID that makes every single ride in Allegheny County's public transportation system free of cost. Besides the public transport, most student-dense areas are very walk-able, with grocery stores, gyms and restaurants. Even if you don't need a car, having one for sure is a benefit in terms of moving, getting groceries and doing trips to Costco, IKEA and Walmart. However, these locations are not out of your reach as the service Zipcar is strong in Pittsburgh and you can rent cars for only a few hours up to whole days. Alternatively you might have some leftover pizza that you can exchange for a few hours with your friend's car (amount of slices is negotiable).

# Part II Incoming Students

## 4

## Transitioning to Graduate School

#### Tomas Suarez Omedas

CEO of Student Life

#### **CONTENTS**

4.1	How to be an expert in your field	1.
4.2	How to be a functioning adult (if you don't know how)	1

If no one has said this until now, Congratulations! You deserve that and an ice cream cone because you have been accepted as a doctoral student in a world-class university. Now to the important stuff, we know that the concept itself of being a graduate student can be overwhelming but we can assure you that everything will be alright.

From this point on society expects two things from you: To be an expert in your field *and* to be a fully functioning adult, but we got you.

#### 4.1 How to be an expert in your field

Step 1: First you have to... Just kinding. There is no set of steps that will take you from where you are to being an expert. Everyone begins as the new guy at some point. You will feel that you are the person that knows less in the room (in many rooms) and that may discourage you or make you feel small. Push through that feeling and focus on yourself and how can you improve, even if you feel small. The main way to acquire the "expert" qualities that scientists have in the humble opinion of this author is to read a lot (scientific papers and books) and speak up. If you don't understand what is happen ask for a rundown. If you are confused ask for clarification. Look for the knowledge you need, in literature and in the people around you.

# 4.2 How to be a functioning adult (if you don't know how)

We are still figuring out this one, but if you have any input please let the authors know and we might write it up here. The main part that we identify of being a functioning adult is to take care of oneself. Take care of you physically, mentally, financially and so on. In the CMU community, personal well-being and mental health is valued, understood and cherished.

In more specific matters, I (the all-knowing author) have four categories of things to do, and the balance between them is what keeps me going day by day. First (and most obvious), academia: Turn stuff on time, achieve milestones and learn lots from everything around me. Second, personal "logistic" stuff: Do my taxes on time, go to the doctor/dentist/optometrist often (not only on emergencies), organize my room and kitchen and so on. Third, contact with my family and friends: I maintain contact with the people I love and cherish, which involves calling/messaging them and finding time to connect with them (traveling or talking about different things than school). Last but not least, my fourth category is me: I do stuff I like and live a life that I like living. I believe that there is no way that I can push through a Ph.D without liking myself in the process.

You can make your own categories (or have none whatsoever), this is the way that this humble author found to become a resemblance of a functioning adult.

### Insurance and Taxes

#### Tomas Suarez Omedas

Lord of Student Life

#### **CONTENTS**

5.1	Insurance	13
5.2	Taxes	13

"nobreak

#### 5.1 Insurance

At the moment of this writing CMU announced that will cover 100% of the health insurance of graduate students. CMU's graduate student association (GSA) will use this win for graduate students to advertise their effectiveness to sort bureaucratic resistance (and it is well deserved).

To this moment the insurance plan through the university is called the Student Health Insurance Plan (SHIP, yes, we like acronyms) and you can check their page for a complete list of services and coverage. In general, SHIP is a very good base insurance that covers regular physical exams, many emergency services and lots of other health services. It does not include dental and eye health insurance, but for under \$150 a year the plan can be expanded to cover dental and eye care. There are also ways to use that money to get another insurance (while CMU pays the same amount), but requires contacting the administration.

Pittsburgh is an amazing city for healthcare, with many hospitals and independent practices of dentistry, ophthalmology and more. One piece of advice, schedule physical exams and dentist appointments with anticipation as appointments may only be available many months in advance.

#### 5.2 Taxes

Taxes here are just as complicated as taxes everywhere in the US, but there are a couple perks for CMU students. First, CMU students are exempt from local and state taxes if your address in the tax return is in Pennsylvania. We still pay federal taxes like social security and medicare, but reducing the other two tax sources makes our returns much cheaper. Important note for international students: CMU offers Glacier, a tax tool free only for CMU international students. This can help you be asured that you will not have tax problems with Uncle Sam down the road.

## Apartments and Renting

#### Tomas Suarez Omedas

Senpai of Student Life

#### **CONTENTS**

6.1	Areas to Live	15
6.2	Rent Prices	16

As stated before in The Atlas, Pittsburgh is on the friendly side of the spectrum with regards to renting (or buying) places to live. The peak renting timing is late April and May for the best deals in town, but it is possible to find decent deals in June and July. Most move-in dates are August 1<sup>st</sup>, but that can vary for different places.

#### 6.1 Areas to Live

By far, the two most popular areas for CMU graduate students to live are Shadyside and Squirrel Hill. These two areas are well connected to university via various buses and principal streets. We will talk about rent pricing in the next section, but here are some qualitative facts from these two areas:

#### Shadyside

- Slightly younger population
- Good amount of local bars and restaurants in the area
- Apartment buildings as well as multi-unit houses
- Has four grocery stores, a huge Giant Eagle, a smaller Aldi and at the far end of Shadyside there is a Target and a smaller Giant Eagle

#### • Squirrel Hill

- Many families live in the area (more quiet area)
- Mostly multi-unit houses for rent

- Many restaurants in Forbes and Murray avenue (but less than in Shadyside)
- Only has one grocery store, a very small Giant Eagle (yes, we find that funny as well) but that has all you need, although maybe not many different brands of everything

Besides Shadyside and Squirrel Hill, two other very popular areas for graduate students are Bloomfield and Oakland North. Each of these areas are great as well, but less popular among the graduate student population.

#### Bloomfield

- Neighborhood north of Shadyside most bars/restaurants in Shadyside are close to Bloomfield as well
- Less connected to campus than Shadyside. To get a direct bus from Bloomfield to CMU/Pitt campus you have to get in Shadyside's bus lines 71A or 71C

#### • Oakland North

- Is very close to CMU and Pitt main campus, especially Mellon Institute where many neuroscience research labs and classes are located.
- The undergraduate population is more dense
- Good restaurants and bars nearby
- Very well connected through buses as it is very close to many important bus routes

#### 6.2 Rent Prices

Most graduate students (at least at the beginning) rent single rooms in multiunit houses or apartment buildings, so let's begin there. For a *complete* living (we will define this in a bit), single room rents range from \$750 to \$1300 plus utilities. These are estimations and we recommend to check Apartments.com and such for a more exact and current information. With *complete*, we refer to a full room with closets, a bathroom (shared or single), and decent-sized kitchen space. We know there are people who like to save by living in basements, closets and such (we respect you, you are valid) and those rents can be found for \$300-\$500, however we do not recommend them for your mental health. Depending on the landlord, there might be a principal lease where one of the roommates subleases each room to other people, but it is also common to have direct single bedroom leases to avoid complications with the primary lease holder. Some of them will come fully furnished which will be rented first. 6.2 Rent Prices 17

Finding potential roommates can be done through the CMU roommate finder website. As there is no graduate campus housing, there are always a good amount of students with and without places to find roommates.

One-bedrooms apartments can be found in the areas mentioned above at around \$850 to \$1,400. They have the advantage of more privacy at a little higher expense, but unlike bigger cities is not impossible to have one-bedrooms rented.

Some students are able to buy houses in the area to live and rent in the meantime. The Pittsburgh real estate market grows, especially in the condotype units.

### 7

## Orientation

#### Tomas Suarez Omedas

Knight of Student Life

#### CONTENTS

There will be an orientation with a somewhat similar format as the prospective student recruiting event. Tune in in the future for more details, we will post them when we get them.