

Visual Sciences Training Program  
(VSTP) Grant  
NIH T32-EY07157

PI: Johannes von Lintig, Ph.D.

## **IMPORTANT INFORMATION FOR VSTP TRAINEES**

### **Visual Sciences Training Program T32 Grant (Commonly referred to as VSTP T32)**

Grant number: T32 EY07157

Name of grant: Visual Sciences Training Program Grant (VSTP)

Grant Year: June 1 – May 31

Your training dates may be found on your appointment form

## **IMPORTANT NAMES AND CONTACT INFORMATION**

- Program Director and Principal Investigator  
Johannes von Lintig, Ph.D.  
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- Training Grant Administration  
Jennifer Capretta  
Grants Manager  
Office Phone: 216-368-2758  
E-mail: [Jennifer.Capretta@case.edu](mailto:Jennifer.Capretta@case.edu)

### **Your Contact Information**

Please keep the following information current:

- Your home address
- The best phone number to reach you at work
- A phone number to reach your emergency contact
- E-mail and office phone of your PI
- E-mail and office phone of your home department administrator

### **What's in a Name?**

On this grant you will be referred to as a VSTP Trainee. This name does not refer to your status at CWRU. This is not a title but a way of referring to the people who receive funding from this grant. Your title will be either “predoctoral fellow” or “postdoctoral fellow”, as stated on your appointment form.

The VSTP grant that funds your stipend, research supply funds and travel is based in the Department of Pharmacology. Your appointment is based in the department where you work.

## **Stipend**

You will receive your stipend at the end of each month for 12 months. Note: this is not a salary but a stipend. While you are receiving funds in the form of a stipend, health insurance, tuition, travel and research supply funds from Case, you are not an employee of Case. The level of the stipend is set by NIH. Predoctoral stipends are all the same. The postdoctoral stipend is based on the number of FULL years of relevant research experience since receiving your PhD. Predoctoral stipends may be supplemented to levels determined by your home department, as long as monies do not come from federal funds, i.e., a federal grant. Your stipend will remain the same for your first 12 months.

## **Required Courses/Training**

- PHRM 432, “Current Topics in Vision Science”. This class (taught by Dr. Paul Park) is only available every other spring semester.
- An appropriate seminar series for your research.
- Summer Ophthalmology Visual Sciences Research Symposium: you will be notified of the date in the Fall.
- Education for Protection of Using Human Subjects in Research (only if applicable--see below).
- Bioethics (IBMS 500) is a one credit pass/fail, full semester course which must be taken by both predoctoral and postdoctoral trainees (postdoctoral trainees audit the course). It is only offered in the spring semesters. Please contact Rachel Begley [rachel.begley@case.edu](mailto:rachel.begley@case.edu) for instructions on how to enroll.

## **Education for Protection of Using Human Subjects in Research**

Within your first week, it is important for you to provide the grant manager with documentation of your certification to conduct research with Human Subjects (if applicable). The online computer-based course is acceptable for this purpose and can be found at the following website:

[http://ora.ra.cwru.edu/orc\\_education\\_crec.asp](http://ora.ra.cwru.edu/orc_education_crec.asp). Please note that there is difference between certification and your future need to take continuing credits.

## **Once You’ve Completed Your Qualifying Exam (Advancement to Candidacy)**

Students must complete 18 hrs of 701 in order to obtain a Ph.D. Copies of the required forms that must be filed with the Office of Graduate Studies in order for the student to advance to candidacy and to register for 701 are included in the appendix. After completing 18 hours of 701, it is necessary for students to register for only one credit hour of 701, which significantly reduces tuition costs; the student is still considered a full time graduate student with the reduced number of credit hours. However, if for some reason it is necessary for a student to have full-time status (for example, to maintain visa eligibility or to postpone repayment of a student loan), s/he may also sign up for 8 credit hours of 703 (dissertation fellowship), which incurs no additional tuition charges.

## HEALTH INSURANCE

The VSTP grant provides single health benefits coverage while you are appointed as a trainee. In certain cases the monies reserved for trainee research supplies may be applied towards healthcare premiums for your dependents. **Before signing up for dependent healthcare, please contact the grant manager for further details.**

### Predoc Health Plan

Information on the CWRU Health Plan program for students, including enrollment and prescription information, may be found at:

<http://students.case.edu/medicalplan/student/1213/>

### Postdoc Health Plan

Information on the CWRU Health Plan for postdocs, including enrollment and prescription information, may be found at:

<http://www.garnett-powers.com/case/>

## YEARLY PROGRESS REPORT

**Due 4 weeks before the end of your yearly appointment: See example form at the end of this booklet**

## ALLOWABLE EXPENSES ACCORDING TO THE T32 GRANT

- Travel: including attendance at scientific meetings that the institution determines to be necessary to the individual's research training. Because travel money cannot be carried forward, it should be spent by May 15<sup>th</sup>.
- Research expenses: such as laboratory supplies, books, journals. Because supply money cannot be carried forward, it should be spent by May 15<sup>th</sup>.
- These costs must be specifically documented for each individual candidate and must be directly related to the trainee's research activities.

## OTHER EXPENSES COVERED BY THE GRANT

Yearly CWRU fees and tuition up to the predetermined NIH-allowable amounts (as indicated on your appointment form).

## HOW DO I MAKE PURCHASES WITH MY RESEARCH SUPPLY FUNDS?

- You will be allocated a set amount of supply funds to be used during each grant year. You will need to create a budget for your time on the grant based on conversations with your primary mentor. Supply funds should be spent by May 15<sup>th</sup>.
- When you want to order supplies, please e-mail your order request to the purchasing team and cc the grant manager (hubpurchasingtande@case.edu). Be sure to include complete information, including:
  - Vendor name and contact information
  - Your complete delivery address (including department, building, room number, and phone number)

- Catalog number, item description (don't abbreviate), quantity, price per unit
- Speedtype to charge the T32
- The grant manager will review the request, verify availability of funds, and approve your purchase. Once your purchase has been approved, the purchasing team will place the order (please refer to "Training Grant Administration" section for contact information).
- **Computers: Dell, HP or the Apple Store at Case.** In order to be eligible for discounted CWRU pricing, computers must be ordered through approved vendors. For such a list, you may ask the purchasing team at [hubpurchasingtande@case.edu](mailto:hubpurchasingtande@case.edu)
- Common vendors for supply orders: Your research supply funds will stretch further when you order through a CWRU vendor. CWRU has negotiated with each vendor to receive a considerable discount on purchases, with no sales tax included in the purchase (CWRU is a tax-exempt organization).
  - **Office Supplies: Office Max.** You may view their products at [www.officemax.com](http://www.officemax.com).
  - **Lab Supplies: Fisher Scientific.** You can access the Fisher catalog through [www.fisher.com](http://www.fisher.com)
- **Books:** You can price books at [www.Amazon.com](http://www.Amazon.com).
- For all purchasing, you must go through the hub purchasing team and cc the grant manager.

### **How long do I have to spend my travel and research supply funds?**

You will be appointed to a renewal one year appointment on the T32. If a second year is granted (after the steering committee reviews your progress, a second year appointment will be offered and travel and supply funds will be replenished. The grant manager can provide a balance at any point for you.

### **I want to take a course and there is a fee**

**All students are expected to register for courses and submit tuition bills in a timely fashion.** The grant manager will work with your department's administrator to pay your tuition using the T32 allotted dollars

If you are experiencing a problem with billing (e.g., receiving a bill each month showing a balance due) you should contact your department administrator and/or the T32 grant manager immediately, to avoid incurring a late fee.

### **Can the administrator in my department make the purchases for me on their Pcard?**

**Since the grant manager tracks all of your expenses on the VSTP, she needs to sign off on all of your expenses. Therefore, the administrator cannot purchase items on your VSTP Account or on his/her Pcard unless you have prior permission from the T32 grant manager.**

**I used my personal credit card for research supplies, how do I get reimbursed?**

CWRU requires you to go through our established contractors for any items you need for research. Purchasing has negotiated discount prices with many providers. Because CWRU is tax exempt, an additional savings is available when buying through purchasing (hubpurchasingtand@case.edu).

If you have purchased an item for your research with your personal credit card, please send a copy to the grant manager and she will have the money charged to your research supply funds and have a check for the amount mailed to your home address (or directly deposited if you have this set up). It can take up to 2 weeks to receive the funds.

NOTE: Since CASE is tax exempt; tax that is paid by you may not be reimbursed.

**I have an unusual expense**

Just call or e-mail the grant manager to discuss the best way to proceed.

## CITING THE GRANT IN YOUR PUBLICATION

Please be sure to acknowledge VSTP support in your publications, whenever applicable, by using the following statement: “XXX (trainee’s name) was supported by the Visual Sciences Training Program grant from the National Institutes of Health (T32 EY007157).

## TRAVEL

### **I am traveling to a national meeting/conference**

Registration for conferences, travel arrangements, pre-purchase of conference materials and membership dues can be billed directly to your research supply funds via the purchasing team at hubpurchasingtande@case (each request to pay for conference fees or membership dues should be cc-d to the grant manager also An abstract must be submitted to the grant manager in order to be eligible for support from the training grant. **As soon as you know you want to go to a meeting/conference, prepare and submit a letter request that should include:**

- Name of meeting
- Date and location of meeting
- Outline of support requested (e.g., cost of registration, accommodation, transportation cost, etc...). Please indicate other sources of support for attendance at the meeting. Your mentor should indicate a commitment to the remaining required funds.
- Statement of participation and purpose (Will you be presenting a poster or talk? Why is it important for you to go to this meeting?)
- Contact information (email address, phone, location code) for you and your mentor
- Supporting Documentation - Please provide a copy of the abstract that has been submitted, and a copy of the meeting registration confirmation (or a copy of the completed meeting registration form).
- You and your mentor should both sign the letter

### **I am traveling to an international meeting/conference**

For international travel only, the director of the training grant must submit a request for approval to the NEI. Because of this **we ask that trainees submit their requests at least 6 weeks in advance of their meeting.** If permission is obtained, the grant can provide \$800 in travel support (this is subject to grant renewal so please confirm with the grant manager before you book your travel.

**Please work with the grant manager to coordinate your travel arrangements and related expenses.** We must work with our purchasing team on all travel related purchases. There are specific requirements for reimbursements, so please ask the grant manager ahead of time to go over what you need to produce to qualify for a reimbursement.

A sample letter is provided for your reference on the following page.

**Sample letter to request VSTP travel support:**

(Date)

Johannes von Lintig, Ph.D.  
Director, Visual Sciences Training Program

Dear Dr. von Lintig:

I am writing to request financial support from the VSTP to attend:

**Meeting:** 2013 ARVO Annual Meeting, "The Aging Eye"

**Date:** May 6-10, 2022

**Location:** Fort Lauderdale, Florida

**Estimated Travel Expenses = \$1,480**

Hotel: \$150/nite x 5 nites \$750

Meals: \$45/day x 5 days \$225

Roundtrip Airfare \$475

Transport between airport/hotel \$ 30

**Purpose:** ARVO is a major forum for vision researchers and practitioners to explore the vast and varied efforts underway to unlock the mysteries surrounding eye diseases. I will be presenting a poster of novel research conducted in Dr xx's lab.

**Supporting Documentation:** Attached please find the accepted abstract, a copy of the meeting registration confirmation form and invitation. Since the VSTP provides a maximum of \$800 towards travel expenses, my mentor is willing to provide the remaining required funds.

**Contact Details:**

(Graduate Student) name, Phone, email

(Mentor) name, Phone, email

Department, location code

Sincerely,

(Student)

(Mentor)

### **What about my hotel expenses at a conference?**

Bills for your hotel will need to be initially paid by you and then reimbursed from your travel funds. Please save the original receipts and the purchasing hub can work with you to request a reimbursement.

### **Travel Expenses**

The amount of your expenses will be charged to your travel funds and a check will be sent to your home, unless you have direct deposit.

#### *Unallowable expenses:*

- Cleaning, pressing, and laundry.
- Personal entertainment including movies in a hotel room.
- Airline and other trip insurance.
- Barber, manicurist and shoe shine.
- Personal telephone calls except to report changes in schedule, or to talk with family members  
**once per day.**
- Repairs on personal automobiles damaged while on company business.
- Traffic violations and court costs.
- Membership fees in airline clubs.
- NIH grants do not cover expenses for alcoholic beverages.

### **Case per diem/mileage**

The actual cost of meals, including taxes and tips, while on business is reimbursable. **Original receipts** are required. NOTE: The meal allowance is NOT a per diem; it assumes actual expenses have been incurred and receipts need to be itemized, even room service.

In 2021 the reimbursement per mile for research purposes (i.e. driving to a conference, driving to locations to conduct research but not traveling to and from work on a daily basis) is \$0.56. Toll charges and parking fees, when supported by original receipts, are reimbursable in addition to the mileage allowance.

## **HELPFUL WEBSITES**

### **Computer software that is available through CWRU**

General software center: <https://softwarecenter.case.edu/eula.php>

### **Helpful Resource: Google Scholar**

There is a new service from Google to search citations, scholarly literature, including peer-reviewed papers, theses, books, prints, abstracts, articles from a wide variety of academic publishers, professional societies, print repositories and universities, as well as scholarly articles available across the web.

The new service is called Google Scholar. You can try it out at the following

address: <http://scholar.google.com/>

Also, if you click on the Advanced Scholar Search, you can customize your results by providing more specific search criteria, e.g. if you want to retrieve articles for somebody in a certain year.

You can also click on this link to jump to the advanced search:

[http://scholar.google.com/advanced\\_scholar\\_search](http://scholar.google.com/advanced_scholar_search)

### **Recreational and sports activities at Case**

<http://studentaffairs.case.edu/athletics/>

### **Information on Cleveland**

<http://www.cleveland.com/>

### **Resources for Learning Opportunities**

*Resources for lectures, seminars, meetings and conferences:*

CWRU campus events: <https://case.edu/events/>

*NEI Website*

Has a wealth of information that might be helpful in your research:

<http://www.nei.nih.gov/>

*Comprehensive List of Upcoming Scientific Meetings:*

<http://www.nei.nih.gov/news/>

*Looking for Vision Related Articles?*

NIH Library Electronic Resources (including online journals)

<http://nihlibrary.nih.gov/>

*NLM PubMed*

<http://www.ncbi.nlm.nih.gov/sites/entrez?holding=nih>

*NCI Publications Locator*

At this site you can view or order free publications

<http://catalog.nei.nih.gov/productcart/pc/mainIndex.asp>

*NIH Special Interest Groups*

<http://www.nih.gov/sigs/index.html>

**VSTP YEARLY PROGRESS REPORT**

(Send this progress report to the grant manager within 4 weeks of your appointment end date)

Students should also attach to this annual progress report given to thesis committee members at their host department

DATE:

YOUR NAME, TITLE, DEPARTMENT

SECONDARY MENTOR(S) NAME, DEGREE, TITLE, DEPARTMENT

***a) Scientific objectives of the trainee's program***

Specific Aims:

***b) Trainee's research goals and how they relate to the object of the NEI T32 program.***

***c) Plans for coursework and seminars.***

Coursework:

Year	Course	Credit	Grade

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**d) Duration of planned training program, including plans for any non-research activities.**

**e) Human subjects involvement.**

**f) Use of animals (species, care, procedures, etc); IACUC certification, if appropriate.**

**g) Signatures.**

Trainee: \_\_\_\_\_ Date: \_\_\_\_\_

Program Director: \_\_\_\_\_ Date: \_\_\_\_\_

## SAMPLE Training Plan to Accompany PHS 2271

### c) **Scientific objectives of the trainee's program**

Adhesion molecules and their regulation are integral to our understanding of the development of the visual system. We study the adhesion molecule PTP $\mu$ , a receptor tyrosine phosphatase, in the chick visual system. Neurons from the retina contact with and respond to various adhesion molecules by extending long processes known as neurites. Our lab has shown that PTP $\mu$  can promote neurite outgrowth. Recently we have determined that E-cadherin promotes neurite outgrowth of retinal ganglion cells. PTP $\mu$  is known to bind E-cadherin. We hypothesized that PTP $\mu$  phosphatase activity regulated E-cadherin-dependent neurite outgrowth.

At the end of January I will be submitting a first author publication entitled "E-cadherin promotes retinal ganglion cell neurite outgrowth which is required by Protein Tyrosine Phosphatase- $\mu$  expression" to Molecular and Cellular Neuroscience. The following is a brief abstract outlining the paper.

During development of the visual system, retinal ganglion cells require various extracellular matrix (ECM) glycoproteins and cell-cell adhesion molecules (CAMs) for axon growth and pathfinding. The classical cadherins, N- and R-cadherin are expressed in the retina and have been shown to promote neurite outgrowth. In this study we demonstrate that another classical cadherin, E-cadherin promotes neurite outgrowth of chick retinal ganglion cells at various stages of development when used as a culture substrate *in vitro*. E-cadherin adhesion blocking antibodies specifically inhibit neurite outgrowth on an E-cadherin substrate while neurite outgrowth on N-cadherin is unaffected. The receptor-type protein tyrosine phosphatase, PTP $\mu$ , binds classical cadherins such as E-, N- and R-cadherin. We previously showed that PTP $\mu$  expression is required for N-cadherin dependent neurite outgrowth. Here we show that down regulation of PTP $\mu$  expression results in a significant decrease in neurite outgrowth on E-cadherin. Taken together these findings demonstrate that E-cadherin is an important adhesion molecule for retinal ganglion cell neurite outgrowth and suggest that PTP $\mu$  expression is required for outgrowth on an E-cadherin substrate.

#### Specific Aims:

1. Determine whether PTP $\mu$  activity is required for neurite outgrowth on E-cadherin,
2. Identify common and distinct signaling pathways between E-cadherin and N-cadherin in the chick visual system.

### d) **Trainee's goals and how they relate to the object of the NEI T32 program.**

My professional goal is a career in teaching and research. To successfully bridge the research and teaching of biology, I need the best possible research training. As a PhD trainee, I am particularly well-suited for the Visual Sciences Training Program which has an emphasis in interdisciplinary research.

### c) **Plans for coursework and seminars.**

#### **Coursework (EXAMPLE, depends on DEPARTMENTAL REQUIREMENTS):**

The Department of Molecular and Microbiology requires a minimum of four graduate courses in addition to the medical school curriculum.

Year	Course	Credit	Grade
Year 1 (PhD)	Correlated Curriculum in Cell and Molecular Biology	4	B
Year 1 (PhD)	Correlated Curriculum in Cell and Molecular Biology	4	B
Year 1 (PhD)	Introduction to Cancer Biology (a signaling course)	3	A
Year 1 (PhD)	Protein Phosphorylation	3	A
Year 1 (PhD)	On Being a Professional Scientist	0	P
Year 1 (PhD)	Seminar in Molecular and Microbiology	1	A
Year 2 (PhD)	Cytoskeleton and Disease	1	A
Year 2 (PhD)	Seminar in Molecular and Microbiology	1	A
Year 2 (PhD)	Biochemical and Molecular Aspects of Vision	3	Enrolled
Year 2 (PhD)	Signaling via Cell Adhesion	3	Enrolled
Year 2 (PhD)	Seminar in Molecular and Microbiology	1	Enrolled

**Seminars:**

The Department of Molecular and Microbiology requires that students give annual seminars on their own research starting in their second year of training. My first scheduled seminar will be on April 11<sup>th</sup>, 2006. Over the course of two years I will have taken three semesters of "Seminar in Molecular and Microbiology". In addition, I have co-founded the Graduate Student run seminar series in the Department of Molecular and Microbiology.

**Meetings:**

In June of 2005 I attended the Cell Contact and Adhesion Gordon Conference at Proctor Academy in New Hampshire, which focused on one major family of cell adhesion molecules, the cadherins. In 2006 I plan to submit an abstract to a cell signaling, visual science or neuroscience conference.

**d) Duration of planned training program, including plans for any non-research activities.**

I have been in the Brady-Kalnay Lab for one year. I will complete all of my graduate coursework by May 2006 and will proceed to my qualifying exam (August 2006). My remaining PhD requirements are the annual departmental seminars and committee meetings (the first of which will be in April 2006), to complete my thesis research, and to write and defend my dissertation.

**e) Human subjects involvement.** Not applicable.

**f) Use of animals (species, care, procedures, etc); IACUC certification, if appropriate.**

Our model system is the embryonic chick visual system. We use chicken embryos aged embryonic day 4 through 12. The eggs are purchased from Spafas and from the CWRU farm. They are incubated in a rocking incubator at 37°C until the appropriate stage. The embryos are removed from the eggshell with curved forceps and the neck is severed. The

necessary tissue is then dissected and used for experiments. Experiments involving embryonic chicks are exempt from IACUC certification.

**g) Signatures.**

Trainee: \_\_\_\_\_

Preceptor: \_\_\_\_\_

Program Director: \_\_\_\_\_

## NIH T32 GUIDELINES

### **Stipend Supplementation, Compensation, and Other Income**

The grantee institution is allowed to provide funds to an individual in addition to the stipends paid by the NIH. Such additional amounts either may be in the form of augmented stipends (supplementation) or in the form of compensation, such as salary or tuition remission for services such as teaching or serving as a laboratory assistant, provided the conditions described below are met. Under no circumstances may the conditions of stipend supplementation or the services provided for compensation interfere with, detract from, or prolong the trainee's approved NRSA training program.

**Stipend Supplementation:** Supplementation or additional support to offset the cost of living may be provided by the grantee institution. Supplementation does not require additional effort from the trainee. DHHS funds may not be used for supplementation under any circumstances. Additionally, no funds from other Federal agencies may be used for supplementation unless specifically authorized by the NIH and the other Federal Agency.

**Compensation:** An institution may provide additional funds to a trainee in the form of compensation (as salary and/or tuition remission) for services such as teaching or serving as a research assistant. A trainee may receive compensation for services as a research assistant or in some other position on a Federal research grant, including a DHHS research grant. However, compensated services should occur on a limited, part-time basis apart from the normal research training activities, which require a minimum of 40 hours per week. In addition, compensation may not be paid from a research grant supporting the research training experience.

**Educational Loans or G.I. Bill:** An individual may make use of Federal educational loan funds and assistance under the Veterans Readjustment Benefits Act (G.I. Bill). Such funds are not considered supplementation or compensation. Postdoctoral trainees in their first and third years of training may also be eligible to participate in the NIH Extramural Loan Repayment Program

**Concurrent Awards:** An NRSA may not be held concurrently with another federally sponsored fellowship or similar Federal award that provides a stipend or otherwise duplicates provisions of the NRSA.

### **Taxability of Stipends**

Section 117 of the Internal Revenue Code applies to the tax treatment of scholarships and fellowships. Degree candidates may exclude from gross income (for tax purposes) any amount used for course tuition and related expenses such as fees, books, supplies, and equipment required for courses of instruction at a qualified educational organization. Nondegree candidates are required to report as gross income any monies paid on their behalf for stipends or any course tuition and fees required for attendance.

The taxability of stipends in no way alters the relationship between Kirschstein-NRSA fellows and sponsoring institutions. Kirschstein-NRSA stipends are not considered salaries. In addition, recipients of Kirschstein-NRSA individual fellowships are not considered to be in an employee-employer relationship with NIH or the sponsoring institution solely as a result of the Kirschstein-NRSA award. The interpretation and implementation of the tax laws are the domain of the IRS and the courts. NIH takes no position on what the status may be for a particular taxpayer, and it does not have the authority to

dispense tax advice. Individuals should consult their local IRS office about the applicability of the law to their situation and for information on their tax obligations.

### **Form 1099**

Although stipends are not considered salaries, this income is still subject to Federal and, sometimes, State income tax. Such income may be reported by the sponsoring institution on IRS Form 1099, Statement of Miscellaneous Income. Normally, the business office of the sponsoring institution will be responsible for annually preparing and issuing IRS Form 1099 for fellows paid through the institution (fellows at domestic non-Federal institutions). Sponsoring institutions are not required to issue a Form 1099, but it is a useful form of documentation of income received and a reminder to the fellow that some tax liability may exist. Fellows are reminded that, even if the sponsoring institution does not issue a Form 1099, they still are required to report Kirschstein-NRSA stipends as income.