



CALL FOR APPLICANTS

INSTITUT PASTEUR UNDERGRADUATE INTERNSHIP PROGRAM IN PARIS
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PAUL W. ZUCCAIRE INTERNSHIP PROGRAM – SUMMER 2008

*Please note that there is a 2-part deadline: 1. Two recommendation letters are to be **POSTMARKED** by **DECEMBER 14, 2007**. 2. Remainder of the application is **DUE JANUARY 4, 2008** (this is **NOT** a “postmark date” but a **due date**).*

Founded in 1887 by Louis Pasteur and located in the heart of Paris, the Institut Pasteur is one of the world’s leading biomedical research organizations. With more than 130 laboratories and 2,500 people on campus, it is a vibrant, international community devoted to basic scientific research primarily in the area of infectious disease.

The Pasteur Foundation of New York runs this 10-week summer program for U.S. undergraduates to conduct research internships at the Institut Pasteur. Our goal is to encourage students in the pursuit of a scientific career and to expose them to an international laboratory experience. For a list of the four participating laboratories see page two. **To download FAQ and application PDFs**, visit our website: www.pasteurfoundation.org/zuccaire.html. Specific fields include immunology, cellular biology, microbiology, genetics, genomics and bacteriology. Key words: cell polarity, dendritic cells, vaccines, cancer, innate and acquired immunity, immune response, genome plasticity, lateral gene transfer, anthrax, *Bacillus anthracis*, spores.

During the internships (see lab descriptions for available dates; exact start/end dates of the 10-week period will be mutually agreed upon), interns will carry out research supervised by a lab mentor. Applicants should be eager to immerse in a different culture and self-sufficient enough to arrange travel and secure housing in Paris. Depending on availability, affordable housing in a residence on campus may be possible. Interns will receive a living allowance of \$400/week for a total maximum of \$4,000. Travel/housing are not paid by this program, but a \$300 subsidy is provided and intended to defray cost of travel and requisite insurance.

Eligibility: Applicants must 1) be undergraduates with a **strong** interest in biosciences and biomedical research (prior lab experience is highly recommended); 2) have completed two full years (i.e. four semesters) of college course work by the time the internship commences; and 3) not yet have received their undergraduate degree at the time of application (i.e. January 2008). While not required, a knowledge of French or desire to learn will enhance the experience.

Open to U.S. citizens only; we regret that permanent residents are not eligible.

All applicants will be notified by mid-February and awardees will be obligated to accept or decline by early March 2008.

Paul W. Zuccaire Undergraduate Internship Program 2008 Institut Pasteur Host Laboratories

Applicants must rank the following labs in order of preference on Application Form 1.

ETIENNE-MANNEVILLE LAB

Cell Polarity and Migration Unit – Lab Head: Sandrine Etienne-Manneville

Cell polarity is an essential aspect of cell and developmental biology. It plays a key role during cell division, cell differentiation and cell migration. This unit's current projects include: (1) contribution of Rho GTPases to cell polarization; (2) analysis of Par proteins-mediated polarity signaling pathways; and (3) regulation of microtubule organization and centrosome positioning.

Internship in this lab may be scheduled between May 1 and September 15, 2008

LECLERC LAB

Biology of Immune Regulations Unit – Lab Head: Claude Leclerc

The main objective here is the rational development of new vaccine strategies. This lab has developed new vectors capable of inducing efficient and protective or therapeutic immune responses against various cancers or infections. Mechanisms involved in the induction and regulation of immune responses in neonates are also actively investigated. Several programs concern the role of dendritic cells during infection by mycobacteria and the influence of DC subpopulations in immune response activation. The Summer 2008 program will concern the investigation of innate and acquired immunity against mycobacteria.

Internship in this lab may be scheduled between June 15 and September 15, 2008

MAZEL LAB

UP Bacterial Genome Plasticity Unit – Lab Head: Didier Mazel

The unit's research projects are all linked to the mechanisms involved in the extraordinary bacterial genome plasticity and in the acquisition of exogenous genetic material, termed lateral gene transfer. The lab is particularly interested in the study of the recombination processes involved the development of multi-drug resistance. Integrons play a leading role in this phenomenon among Gram-negative bacteria, especially in enterobacteria and Pseudomonads. The lab recently demonstrated that this system used a novel recombination reaction involving single stranded DNA. Lab members are now deciphering the mechanisms and the recognition code which support this novel pathway.

Internship in this lab may be scheduled between May 1 and September 15, 2008

MOCK LAB

Toxins and Bacterial Pathogenesis Unit – Lab Head: Michèle Mock

Bacillus anthracis, the etiological agent of anthrax, is a Gram-positive, spore-forming, extra cellular bacterium. Two toxins and a polyglutamic acid, antiphagocytic capsule are the main virulence factors. The unit's research concerns: the study of the spore and vegetative form surfaces, the regulation of virulence factors synthesis, and the analysis of the *in vivo* interactions with the host tissues through bioluminescent imaging. The unit's work also concerns the characterization of both the innate immune response to infection and the protective immune response induced by vaccination.

Internship in this lab may be scheduled between May 1 and September 15, 2008

ZUCCAIRE INTERNSHIP APPLICATION CHECKLIST

Deadlines

1. Two Teacher/Lab Mentor Recommendations must be sent directly to the Pasteur Foundation and be postmarked by Friday, December 14, 2007. No exceptions.
2. Complete applications are due and must be received at the Pasteur Foundation by: Friday, January 4, 2008. Please note: this is a **DUE DATE** not a “postmark by” date. Again, no exceptions. Applications arriving after January 4th will not be considered nor will partial applications.

Important: For more info, download FAQs at www.pasteurfoundation.org/zuccaire.html

Postmarked by December 14, 2007:

- **Exactly two recommendation forms and letters (see “Recommendation Form”)**
Letters must be sealed and signed across the seal by the evaluator and postmarked by December 14, 2007. Letters may be written by professors, lab mentors, academic advisors or supervisors of your scientific work. Scientific recommenders are preferred when possible. No more than 2 letters will be considered.
- **Please make sure you fill in your name in the upper righthand corner.**

Received by Friday, January 4, 2008

Application packets **must contain one cover sheet** with your name and the names of your two evaluators with their emails plus **six (6)** sets of the following documents and no additional materials. Each set should be collated in the order below and not bound with staples or paperclips. *If sent in an express/priority mail envelope, do not use an inner envelope. See FAQ for more information.*

- **The completed, signed form “Application Part 1”**
Make sure to sign the bottom of this form attesting to your U.S. citizenship.
- **Responses to personal statements/questions “Application Part 2”**
- **A résumé not to exceed one page** including any lab-related experience and awards
- **Official transcript for all undergraduate work completed**
Top set must include original transcript and remaining 5 sets may contain photocopies of the official transcript; downloaded or web-based transcripts are not acceptable.
- **Two (2) passport-sized photographs with your name printed on the back**
Please paperclip the two photos to the top of the first set.

Eligibility: currently enrolled college students with a **strong** interest in science (lab experience is highly recommended) who have completed 4 semesters of college coursework by May/June 2008 and who have not received an undergraduate degree by January 4, 2008. Open to U.S. citizens only; permanent residents not eligible.

**All materials must be returned to the
Pasteur Foundation, 420 Lexington Ave, Suite 1654, NY, NY 10170**

Pasteur Foundation Zuccaire Internship 2008: Application Part 1

Name: _____ Social Security No. ____ - ____ - _____

School: _____ Probable Major(s): _____

Are you a (circle one): Sophomore Junior Senior ?

Degree Sought: _____ Graduation Date: _____

Exact Mailing Address (so that we may correspond with you): _____

_____ City: _____ State: _____ Zip: _____

Home Telephone: () Email: _____ @ _____

Birthdate MONTH: DAY: YEAR: Circle: Male Female Cumulative GPA: ____ . ____

Please list your recommenders:

Recommender 1 Name: _____ *Email:* _____

Recommender 2 Name: _____ *Email:* _____

Have you worked in a laboratory independently outside your coursework? YES NO (circle one)
(Please note that independent work is not required but is recommended. See Part II to elaborate.)

Do you speak/write French?

→ Speak: YES NO (circle one)

→ Write: YES NO (circle one)

(Please note that French is not required for this program. See Part II to elaborate.)

Please list four host laboratories (Etienne-Manneville, Leclerc, Mazel, Mock) in order of your preference:

- 1.
- 2.
- 3.
- 4.

→ Are you available for the time periods indicated for each lab? YES NO

→ If not, what is your exact availability (must be at least 10 weeks but more if possible)?

→ If you are strictly interested in a certain lab/labs and do not wish to be considered for other labs, please specify here, otherwise we will assume you are willing to work in all labs for which your availability is compatible:

I hereby certify that I am a U.S. citizen and the information provided herein is accurate and truthful.

Signed:

Date:

Please list all scientific coursework (courses and labs) done in college and grades received.

To indicate courses in progress for which a grade has not been received, use an asterisk (*).
Please attach an additional page if you require more room or are on a trimester or quarter system.

Semester I	Grade Received	Semester V	Grade Received
Semester II	Grade Received	Semester VI	Grade Received
Semester III	Grade Received	Semester VII	Grade Received
Semester IV	Grade Received	Semester VIII	Expected Grade

Pasteur Foundation Zuccaire Internship 2008: Application Part 2
Personal Statements/Questions

Please retype each question followed by your response. Please do not exceed word limits.

1. French level: Please provide a very brief description of your French language skills (both written and spoken). *Knowledge of French is not required but some basic French would improve the quality of your stay; you may wish to take a course if you are accepted.*
(50 words max)
2. Please indicate whether you have:
 → Hands-on lab class experience: YES NO (circle one)
 → Independent lab research experience: YES NO (circle one)

Brief description of both:

3. What are your current careers goals?
If you already know that you will continue on a scientific path please discuss what fields are of specific interest to you and why? (150 words max.)
4. What made you apply for the Pasteur Foundation's Zuccaire Internship, and what do you hope to learn from this experience? (100 words max.)
5. How specifically did you hear about this program and in your opinion what would be a good way to promote it (for example, please provide specific contact people at your school and their emails, internet sites you used for your search, specific listservs and their contact information, school department heads etc.) Please be as precise as possible.
6. Finally, please tell us about your reasons for the way you ranked the host laboratories. If you do not have a strong preference and would be happy to work in any lab, please indicate that here. On the other hand, if there are any labs for which you specifically would not like to be considered, please also mention that here. (100 words max.)
7. What are some of your non-academic interests? (100 words max.)



Applicant's Name

<p style="text-align: center;">Pasteur Foundation Zuccaire Internship Teacher/Lab Mentor/Lab Employer Recommendation Form</p>
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Instructions for Evaluators: **PLEASE WRITE A ONE PAGE LETTER OF RECOMMENDATION. Recommendations together with this completed form must be postmarked by Fri., December 14, 2007 and mailed to: Pasteur Foundation, 420 Lexington Ave., Suite 1654, NY, NY 10170**

EVALUATOR'S NAME:

Title:

Institution:

Telephone:

Mailing Address:

E-mail:

APPLICANT'S NAME:

How long have you known the applicant?:

In what capacity?:

PART I

Please evaluate the student by assigning a number on the following scale:

X=Cannot Evaluate; 1=Below average; 2=Average; 3=Above average; 4=Exceptional

Intellectual level =

Scientific Level=

Lab Skills=

Originality of thought =

Motivation=

Maturity=

Rapport with Peers=

Rapport with Faculty or Lab Mentor=

PART II

Please write an evaluation of the applicant not to exceed one page. Within the evaluation, please discuss (if you are able) the applicant's competence in the laboratory, how s/he compares to other students you have mentored and how s/he might react to an international laboratory experience.

Evaluator's signature _____ **Date:** _____

PLEASE SEAL THIS FORM AND YOUR RECOMMENDATION LETTER IN AN ENVELOPE AND SIGN
ACROSS THE BACK SEAL.

**EVALUATIONS MUST BE POSTMARKED BY DECEMBER 14, 2007. THERE ARE NO EXCEPTIONS.
PLEASE SEND TO: PASTEUR FOUNDATION, 420 LEXINGTON AVE., SUITE 1654, NY, NY 10170.**