



**CALL FOR APPLICANTS**  
**UNDERGRADUATE INTERNSHIP PROGRAM – SUMMER 2010**  
**AT THE INSTITUT PASTEUR IN PARIS**

*Sponsored by the Pasteur Foundation • [www.pasteurfoundation.org](http://www.pasteurfoundation.org)*

*Complete application is due **FRIDAY, DECEMBER 18, 2009.***

*This is **NOT** a “postmark date” but a **due date.***

*Two recommendation letters must be mailed separately and postmarked by December 11, 2009.*

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 138 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](http://www.pasteurfoundation.org). Participating labs are in the following departments at the institute: Infection & Epidemiology; Genomes & Genetics; Cellular Biology & Infection and Virology. Specific subjects include fungi and mycoses, bacterial genomics and multi-drug resistance, bioinformatics, dynamic imaging, etc.

Interns will carry out research supervised by a lab mentor, write a work report and give an oral presentation. 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 on-campus housing 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. Applicants should consult euro exchange rates to determine whether to find supplemental funding.

**Eligibility:** Applicants must 1) be US citizens, 2) undergraduates with a **very strong** interest in biosciences and biomedical research (prior lab experience is highly recommended) and excellent academic records; 3) have completed **three** full years (i.e. six semesters) of college course work by the time the internship commences (i.e. you must be a junior or a senior); and 4) not yet have received their undergraduate degree at the time of application (i.e. December 2009). While not required, knowledge of French or desire to learn will enhance the experience. **Dates:** See lab descriptions for available dates; exact start/end dates of the 10-week period will be agreed upon mutually upon candidates’ acceptance into the program.

OPEN TO U.S. CITIZENS ONLY; WE REGRET THAT PERMANENT RESIDENTS ARE NOT ELIGIBLE.

**All applicants will be notified by the end of February and awardees will be obligated to accept or decline by mid-March 2010.**

## Summer 2010 Host Laboratories

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

### **DROMER LAB**

#### ***Molecular Mycology Unit – Lab Head: Françoise Dromer***

The unit's main project is to better understand the relationship between pathogenic fungi and their hosts. It employs the model of the yeast *Cryptococcus neoformans* responsible for disseminated meningoencephalitis, a severe opportunistic infection responsible for approximately 1 million cases/year and 600,000 deaths. A murine model of disseminated cryptococcosis is available in the laboratory that has been shown relevant to the human infections. Recent questions are: 1) How does *C. neoformans* invade the brain and disseminate? 2) Are some strains more prone to causing disseminated, more severe infections than others and is there a way to characterize them?

**Internship in this lab may be scheduled between May 31 and September 3, 2010.**

### **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 in 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 uses a novel recombination reaction involving single stranded DNA. Lab members are now deciphering the mechanisms and the recognition code that support this novel pathway. The lab also develops projects on the *Vibrio* genome's manipulation to understand the selective advantage bought about by the two chromosomes' partition found specifically in all species of this genus.

**Internship in this lab may be scheduled between May 2 and September 30, 2010.**

### **SHORTE LAB**

#### ***Dynamic Imaging Platform – Lab Head: Spencer Shorte***

Imagopole ([www.imagopole.org](http://www.imagopole.org)) comprises technology-focused teams working on diverse themes tied together by the use of quantitative imaging of biological processes and infection. Expertise in this unit is in the fields of optical light-based imaging technologies, electron microscopy, single-cell manipulation, imaging cytometry, and bioinformatics (including image databases). Internship may be performed in the following areas: 1.) Bioinformatics: image analysis, algorithms, statistics, computer programming and database management; 2.) Multi-dimensional imaging microscopy: imaging living processes in real-time (an important part of our routine service and R&D activities); 3.) Imaging cytometry: technologies for cytometry and automated high-content imaging that require careful assay development, assay validation and optimization.

**Internship in this lab may be scheduled between May 1 and September 1, 2010.**

### **VIGNUZZI LAB**

#### ***Viral Populations and Pathogenesis Unit – Lab Head: Marco Vignuzzi***

This unit uses *in vivo* models to study the behavior of RNA viruses as populations during the course of an infection. Like any population of organisms, a virus population interacts with, reacts to, influences and is influenced by its environment. The unit is interested in following the dynamics and fluctuation of an RNA virus population as it enters the "virgin" territory of a new host and is eventually transmitted from this host during infection after which an expanding population encounters numerous environmental changes and challenges. The goal is to identify the points during infection when the virus population is either most fragmented, most restricted or most heavily challenged by environmental pressure – target points for antiviral approaches. Lab website: [www.vignuzzilab.eu](http://www.vignuzzilab.eu).

**Internship in this lab may be scheduled between May 1 and September 30, 2010.**

## ZUCCAIRE INTERNSHIP APPLICATION CHECKLIST

### DEADLINES

*A Note To Applicants: Due to our extremely limited staff resources, we may appear to be too rigid on these deadlines. We apologize for this. The internship program has had a tremendous response, and we want to give ample time to the review of all applications. Therefore, we ask your understanding and your compliance. Please do not ask us to make exceptions as we are unable to do so.*

1. Two Teacher/Lab Mentor Recommendations must be sent directly to the Pasteur Foundation and be postmarked by Friday, December 11, 2009. No exceptions.
2. Complete applications are due and must be received at the Pasteur Foundation by: Friday, December 18, 2009. Please note: this is a **DUE DATE** not a “postmark by” date. Again, no exceptions. Applications arriving after this date will not be considered nor will partial applications.

**Important: For more info, download FAQs at [www.pasteurfoundation.org](http://www.pasteurfoundation.org)**

### Postmarked by December 11, 2009: Letters of Recommendation:

#### ○ **Exactly two recommendation forms and letters (see “RecommendationForm”)**

Letters must be sealed and signed across the seal by the evaluator and postmarked by December 11, 2009. 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, December 18, 2009: Application Packets:

Application packets **must contain a cover sheet** with your name and the names of your two evaluators with their emails, one id-size photo paperclipped to cover. Cover sheet should be followed by **six (6)** sets of the documents listed below and no additional materials are to be included. Each set should be collated in the order below and **not bound** in any way (this means no spiral bindings, staples or paperclips etc.). *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 1 page including any lab-related experience, achievements 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. **Remember to make transcript requests early to avoid backlogs and holiday office closings.**

#### ○ **One passport-sized photograph with your name printed on the back and paperclipped to the cover sheet described above**

**Mail to: Pasteur Foundation, 420 Lexington Ave, Suite 1654, NY, NY 10170**

**Pasteur Foundation Zuccaire Internship 2010: Application Part 1**

Name: \_\_\_\_\_ Social Security No. \_\_\_\_ - \_\_\_\_ - \_\_\_\_\_  
School: \_\_\_\_\_ Probable Major(s): \_\_\_\_\_  
Are you a (circle one):     **Junior**                             Senior ?  
Degree Sought: \_\_\_\_\_ Graduation Date: \_\_\_\_\_  
Exact Mailing Address (to which your notification letter will be sent): \_\_\_\_\_  
\_\_\_\_\_  
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 plan to pursue a graduate degree? If so, which one: \_\_\_\_\_

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 (Dromer, Mazel, Shorte, Vignuzzi) 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

**IT IS LIKELY THAT YOUR FALL COURSES WILL NOT YET BE GRADED. PLEASE INDICATE YOUR EXPECTED GRADE. NB: DO NOT LET YOUR TRANSCRIPT HOLD UP APPLICATION SUBMISSION; PLAN AHEAD!**

**Pasteur Foundation Zuccaire Internship 2010: 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. 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.)
6. What is your most developed non-academic interest? (75 words max.)
7. 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.



\_\_\_\_\_  
*Applicant's Name*

**Pasteur Foundation Zuccaire Internship  
Teacher/Lab Mentor/Lab Employer Recommendation Form**

Instructions for Evaluators: **PLEASE COMPLETE THIS FORM AND ATTACH A 1-PAGE LETTER OF RECOMMENDATION. The letter and this form must be postmarked by Fri., December 11, 2009 and mailed to: Pasteur Foundation, 420 Lexington Ave., Suite 1654, NY, NY 10170**

**EVALUATOR'S NAME:**

**Institution:**

**Title:**

**Telephone:**

**E-mail:**

*So that we may contact you regarding applicant & with future information regarding this program.*

**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 (what percentile would you place the candidate in?) and how s/he might react to an international laboratory experience. *We appreciate your candor since an international experience presents particular challenges.*

**Evaluator's signature** \_\_\_\_\_

**Date:** \_\_\_\_\_

PLEASE SEAL THIS FORM AND YOUR RECOMMENDATION LETTER IN AN  
ENVELOPE AND SIGN ACROSS THE BACK SEAL; RETURN TO:  
**PASTEUR FOUNDATION, 420 LEXINGTON AVE, SUITE 1654, NEW YORK, NY 10170**  
**EVALUATIONS MUST BE POSTMARKED BY DECEMBER 11, 2009.**  
**WE REGRET THAT THERE CAN BE NO EXCEPTIONS GIVEN OUR EXTREMELY LIMITED STAFF.**