

## APPLICATION PACKET

### DARTMOUTH - MAX PLANCK INSTITUTE JENA INTERNSHIP

2009

Contents: 1. A description of the internship  
2. An application form  
3. Two copies of the faculty recommendation form  
4. A Dickey Center Travel Budget Proposal form

The attached forms should be accompanied by a 2-3 page written proposal stating

- how the internship relates to your academic and intellectual interests, as well as your personal goals and
- what qualifications you bring to the requirements of your project.

Recommendations should be sent **before November 14** to the Department of German Studies, HB 6084, Dartmouth Hall, Room 333.

## Dartmouth - Max Planck Institute of Chemical Ecology (Jena) Internship

Through the initiative of Prof. Ian T. Baldwin '80, the founding director of the institute, an annual one-term internship at the Max-Planck Institute for Chemical Ecology in Jena is available to Dartmouth students. Undergraduates with a strong interest and an appropriate background in organic or analytical chemistry, biochemistry, molecular biology, or ecology and German can work in an outstanding research institution abroad, developing individual research projects in preparation for their senior thesis at Dartmouth. At least some German language skills are required, although the lab itself uses English.

### THE MAX PLANCK INSTITUTE FOR CHEMICAL ECOLOGY

The Max Planck Society for the Advancement of Science maintains 85 Max Planck Institutes for various disciplines within the Natural Sciences and Humanities in Germany. The institute in Jena was founded in 1998 and is divided into four departments specializing in organic chemistry (Prof. W. Boland), biochemistry (Prof. J. Gershenzon), molecular ecology (Prof. I. T. Baldwin) and population genetics (Prof. T. Mitchell-Olds). Dartmouth students are placed in the Department of Molecular Ecology under the leadership of Prof. Ian T. Baldwin. The department focuses on an understanding of the genetic basis of the ecological sophistication of a native *Nicotiana* plant, which has served as a model system for the study of plant-herbivore interactions for more than a decade. It is organized into three subgroups:

The *Molecular Biology Subgroup* focuses on:

- a) cloning and sequencing of ecologically-relevant genes from *Nicotiana* cDNA libraries with heterologous probes;
- b) identifying new genes by differential display of herbivore-induced *Nicotiana* tissues;
- c) transforming native *Nicotiana* species with genes coding for ecologically relevant traits (typically in antisense orientations) to create plants that are defective in the trait of interest.

The *Analytical Chemistry Subgroup* characterizes the chemical phenotypes of the transformed plants and develops techniques that can be used to quantify the production and accumulation of secondary metabolites under field conditions.

The *Ecology Subgroup* conducts field- and glasshouse-experiments in Jena and the Great Basin Desert of the SW USA with the transformed plants to examine the consequences of particular traits for the Darwinian fitness of plants growing in their natural environment. The Dartmouth intern is integrated into one of the research subgroups as a full working member. After some familiarization with the lab, the student chooses a manageable individual project for which he/she is fully responsible, under the mentorship of a doctoral student and the supervision of the senior researcher. At the end of his/her stay, the student is expected to give a formal presentation of that work to the department. The goal is to introduce students to a full range of research in chemical ecology conducted at the Institute.

### Student Qualifications and Selection

Students having junior standing and majoring in biology or chemistry are preferred (qualified sophomores will be considered); an inclination toward combining molecular biology and ecology is especially welcome. A minimum of one lab course each in chemistry and biology is required. At least some German language skills are required, although the lab itself uses English. The optimal time period for an internship is in the Dartmouth spring or summer term. In order to allow

enough time for familiarization with facilities and ongoing research as well as pursuit of an independent project, a stay of at least 3 months is recommended. The Departments of Biology, Chemistry and German Studies will select qualified students from the applicant pool.

### Funding

MPI offers a stipend to cover living expenses and will arrange housing in Jena. The Dickey Center funds travel to and from Germany.

Additional Information can be found at the MPI Jenna home page (<http://www.ice.mpg.de>) or at the Dartmouth - Jena page at [www.ice.mpg.de/itb/positions/fellowships.htm](http://www.ice.mpg.de/itb/positions/fellowships.htm)

# APPLICATION

## DARTMOUTH - MAX PLANCK INSTITUTE JENA INTERNSHIP

Original AND FIVE COPIES, and all supporting materials are to be completed and submitted to the Department of German Studies, HB 6084, Dartmouth Hall, Room 333, by November 14.

Name \_\_\_\_\_ Class \_\_\_\_\_ Graduation \_\_\_\_\_

College Address \_\_\_\_\_ Tel. \_\_\_\_\_ HB \_\_\_\_\_

Home Address \_\_\_\_\_ Tel. \_\_\_\_\_

Citizenship \_\_\_\_\_ Permanent Resident? \_\_\_\_\_ Soc. Sec. # \_\_\_\_\_

Major \_\_\_\_\_

Courses taken which fulfill minimum requirements and provide particular background for Internship

_____	_____	_____
_____	_____	_____

Work experience \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_

Extracurricular Activities \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Honors/Awards \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Term internship will be taken \_\_\_\_\_

Dates in Germany: From (date) \_\_\_\_\_ to (date) \_\_\_\_\_

Remaining Dartmouth Plan

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Faculty Recommenders

(1) \_\_\_\_\_

(2) \_\_\_\_\_

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Signature

Date

This form should be accompanied by a 2-3 page written proposal stating

- how the internship relates to your academic and intellectual interests, as well as your personal goals and
- what qualifications you bring to the requirements of your project.

**Please provide a copy of your transcript.**

Recommendations should be sent **before November 14** to the Department of German Studies, HB 6084, Dartmouth Hall, Room 333.

**DARTMOUTH - MAX PLANCK INSTITUTE INTERNSHIP  
CONFIDENTIAL FACULTY RECOMMENDATION**

To be filled out by the applicant:

I \_\_\_\_ waive / \_\_\_\_ do not waive any right I may have to read or obtain copies of the endorsement that I am receiving from Prof. \_\_\_\_\_

Signature of Applicant: \_\_\_\_\_ Date: \_\_\_\_\_

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To the Recommender: Please comment on the student's qualifications to carry out an internship at the Max Planck Institut in Martinsried and send your recommendation to the **Department of German Studies, HB 6084, Dartmouth Hall, Room 333, by November 14**. Feel free to use the other side of this form as well or to attach a letter. Thank you.

Signature of Recommender: \_\_\_\_\_

Position: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

**DARTMOUTH - MAX PLANCK INSTITUTE INTERNSHIP  
CONFIDENTIAL FACULTY RECOMMENDATION**

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Signature of Recommender: \_\_\_\_\_

Position: \_\_\_\_\_ Date: \_\_\_\_\_

Address: \_\_\_\_\_

**TRAVEL BUDGET PROPOSAL**  
**THE DICKEY INTERNATIONAL INTERNSHIP PROGRAM**  
**DARTMOUTH - MAX PLANCK INSTITUT JENA INTERNSHIP**

Applicant Name \_\_\_\_\_ HB \_\_\_\_\_

Estimated total cost of travel: \$ \_\_\_\_\_

Total requested from the Dickey Center (not to exceed \$750) \$ \_\_\_\_\_

(Note: all awards are considered taxable income by the Internal Revenue Service)