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# Bases

## Research Internship

1. **General Background**

The Technological Development Unit (UDT) of the Universidad de Concepción (UdeC) invites students from doctoral programs in Chile and abroad, to conduct a research stay at its facilities for a minimum of six months.

UDT is a R&D+i center specialized in the development of new products and processes based on the transformation of biomass. It has a plant with more than 100 people, including scientists, professionals and technicians, as well as a significant number of UdeC academicians associated with activities in UDT. Additionally, UDT has an excellent infrastructure for scaling processes and access to first level laboratories within UDT and from other university departments.

1. **UDT Proposal**

We offer the opportunity to: (i) work in our laboratories and pilot demonstration production plants and process scaling (see [www.udt.cl](http://www.udt.cl)), (ii) share in a pleasant, stimulating and demanding environment, (iii) engage in multidisciplinary collaboration and receive support from the principal investigators and associates of UDT, students and academicians from the Universidad de Concepción; and (iv) be part of national and international networks.

Annex 2 presents a detail of the work areas of UDT for those interested.

We offer applicants a funding of up to $5,000,000 CLP (approximately USD$ 7,200) that covers the following aspects: tickets to and from Chile, minimum stay of 6 months with a maintenance of up to $500,000 CLP/month and operational expenses inherent to the research.

**The call begins on Tuesday, November 20, 2018 and closes on Thursday, December 20, 2018. It is expected that those selected can begin their stay no later than March 2019.**

1. **Application Process**

Those interested in applying for funding must submit: (i) complete application form with their data, which is in Annex 1, (ii) curriculum, (iii) regular student certificate of the respective doctorate, (iv) letter of recommendation from the tutor professor or director of the doctorate program and (v) the documents that the applicant deems pertinent. These documents must be submitted to Mónica Paz: [m.paz@udt.cl](mailto:m.paz@udt.cl).

In case of being selected the students must:

1. Execute the planned activities
2. Generate the back-up information that allows an adequate technical and financial follow-up
3. Present the main achievements and learning of their participation at the end of the stay
4. Accredit student visa and medical insurance for the duration of the internship.
5. **Application Evaluation**

The members of the evaluation committee are: the Director, two Principal researchers and two Heads of Department of UDT.

This committee will be responsible for evaluating the applications that comply with the bases of the call and the present procedure.

The proposals will be evaluated on a scale from 1 to 7 and will be ranked according to a ranking.

The evaluation criteria, with a weighting of 25% each, are the following:

* Criterion 1: Thematic relevance with UDT's task
* Criterion 2: Quality of the proposal
* Criterion 3: Feasibility of carrying out the proposed activities within UDT facilities
* Criterion 4: CV

The Evaluation Committee will develop a ranking and select the candidates, according to the mentioned criteria and the availability of funds.

## Annex 1

## Application Form to

## the Research Internship

**Application Form to the Research Internship at UDT**

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| --- | --- |
| **Personal Background** | |
| Name |  |
| Nationality |  |
| City and country of residence |  |
| Date of birth |  |
| Gender |  |
| E-mail |  |
| Skype |  |
| Phone number |  |

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| --- | --- |
| **PhD background** | |
| University, Faculty and Department where the PhD is being carried out |  |
| Country |  |
| Name of the PhD |  |
| Title of the thesis |  |
| PhD starting date |  |
| Expected date to finish the PhD |  |
| Name of the tutor |  |
| E-mail of the tutor |  |

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| **Area and subject of interest in UDT** | |
| Area (mark with an X) | |  |  | | --- | --- | | Biomaterials |  | | Bioenergy |  | | Bioproducts |  | | Environment |  | |
| Topic (see Annex 2) |  |

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| **Summary of the PhD** (1 page max.) |
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| **Grounds for the internship** (½ page max.) |
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| **Objectives of the internship** (½ page max.) |
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| **Proposal of activities per month** (½ page max.) |
| |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Month 1 | Month 2 | Month 3 | Month 4 | Month 5 | Month 6 | | Activity 1  Activity 2  Etc. |  |  |  |  |  | |

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| **Methodology with emphasis on equipment and inputs required** (½ page max.) |
| *We strongly recommend that you check with your future research supervisor in Chile that the critical equipment or infrastructure you want to use will be fully operational at the expected time of your arrival to Chile. It is also recommended to check if the materials you are going to use are accessible within a reasonable time while you develop your stay.* |

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| **Expected results of the internship, including publications** (½ page max.) |
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| **Tentative budget** |
| Ticket costs (Economy class. This may include necessary trips by bus or train).  Stay cost ($500.000 CLP/month max.):  Inputs and reagents:  Others: |

Notes:

* If necessary, include attached documents or background information.
* Medical Insurance and Student Visa must be accredited
* To apply you must submit: complete application form with their data, which is in Annex 1, curriculum, regular student certificate of the respective doctorate, letter of recommendation from the tutor professor or director of the doctorate program and the documents that the applicant deems pertinent. These documents must be submitted to Mónica Paz: [m.paz@udt.cl](mailto:m.paz@udt.cl), until December 20, 2018.

Name and Signature of the Student Name and Signature of the Tutor

## Annex 2

## Areas of Work

## UDT

At UDT the topics of interest are preferably the following:

**Bioenergy Department**

* Bio-oil as a platform for obtaining chemical products
* Carbon materials from pyrolysis with catalytic and agro-industrial applications
* Development of modular technology for the pyrolysis process
* Biomass energy density
* Decentralized electric/heat generation systems (CHP)
* Thermal storage by phase change
* Chemical storage of electrical energy
* Hybrid and carbon-based materials

**Biomaterials Department**

* Containers and packaging
* Bioplástics
* Elastomeric materials
* Antimicrobial polymers

**Bioproducts Department**

* Processes of chemical conversion of biomass
* Lignocellulosic materials
* Natural additives

**Environment and Services Department**

* Strategies and public policies on chemicals and waste
* Evaluation, prevention and environmental protection
* Environmental analysis services