

**Memorandum of Understanding**

**between**

**Trinity College Dublin (Department of Botany)**

**and**

**Khon Kaen University (Department of Biology)**

A Memorandum of Understanding (MoU) between the Department of Botany (including the Trinity College Botanic Gardens), University of Dublin, Trinity College, Dublin 2, Republic of Ireland ("TCD") and the Department of Biology (including the Department Arboretum), Faculty of Science, Khon Kaen University, Mittraphab Road, Khon Kaen, 40002, Thailand ("KKU"), dated this the 2<sup>nd</sup> day of January 2007.

- 1.0 The Department of Botany of Trinity College Dublin (including the Trinity College Botanic Gardens) (TCD) and Khon Kaen University (Biology Department including the Department Arboretum) (KKU) have worked together for many years on mutually beneficial projects focussed on the collection, study and conservation of the Flora of Thailand including participation in the development of a comprehensive Flora of Thailand. This has included the exchange of plant materials, joint collection expeditions, sharing of library resources and use of facilities at KKU and TCD for visiting staff and students. The links continue and are being continually strengthened. For example, two of KKU's academic staff are graduates and/or Postdoctoral students of TCD and, in 2006, TCD made extensive use of the facilities of KKU to facilitate an undergraduate student field-trip to Thailand. Therefore, through regular interactions both institutions have enjoyed collaborative, complementary and non-competitive links. Nevertheless, despite such connections, it is recognised that both institutions can be enhanced by establishing formal protocols for future cooperation and by defining priorities for reciprocal linkages.
- 2.0 The aim of this Memorandum of Understanding (MoU) is therefore to strengthen co-operation between the TCD and KKU, particularly in the areas of botanical research and the education and training of students.
- 3.0 In order to avoid doubt, both KKU and TCD are committed to implementing the letter and spirit of the 1973 Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES), and the 1992 Convention on Biological Diversity (CBD) and applicable regional and national laws and regulations concerning biodiversity.

*Whereas*

- 4.0 Khon Kaen University was established in 1964 and has grown to become a major national institution, enjoying an international reputation for research particularly, with respect to this MoU, in the fields of biodiversity, conservation and systematics. It undertakes diverse programmes of scientific research, notably the Department of Biology conducts a teaching program leading to Bachelor of Science and produces approximately 40 graduates in Biology each year. Several basic courses in Biology are also being offered to students in other faculties in the University. The Department

has been offering a Master of Science degree in Biology since 1990 and a Doctor of Philosophy program since 1990. There are currently 60 graduate students carrying out research in a wide range of biological disciplines from biodiversity to biotechnology. The Department has a particularly strong focus in the area of systematic biology, especially plant taxonomy and anatomy, aquatic insects and zooplankton. Another area of focus is on plant biotechnology and molecular biology. It is a public institution, managed through the Applied Taxonomic Research Center, Khon Kaen University. The Department also houses the Khon Kaen Herbarium, one of the few international Herbaria in Thailand, which focusses on and conserves mainly Thai herbarium specimens and related preserved collections ("Herbarium Material"), mainly gathered from the NE region of Thailand.

- 5.0 Botany has been taught in the University of Dublin, Trinity College for more than 300 years. The research and teaching of the Botany Department is presently concentrated in the fields of Systematic Botany and Conservation; focussing largely on Ireland, SE Asia and the Pacific: Ecology; focussing, largely on woodland ecology, turlough ecology, palaeo-ecology and pollination biology and Whole-plant physiology; focussing especially on global climate change and biomass. Its internationally important Herbarium and associated Library, one of the most type-rich in the World, is complemented by a molecular systematics laboratory. The Botany Department is also responsible for the Trinity College Botanic Gardens, whose history can be traced back to 1687, in which the Irish Rare and Threatened Plant Gene-bank is housed along with research glasshouses, experimental beds, and material used for teaching. Some of the research collections contain taxa presently unavailable in cultivation elsewhere. The Department and Botanic Gardens form an interlocking, complementary complex which has established links with many National and International organisations. The Department and Botanic Garden form a core component of the School of Natural Science of University of Dublin, Trinity College.
- 6.0 Recognising that both organisations have national and institutional responsibilities to undertake effective research in botany and to promote the education and training of students, under the terms of this MoU, KKU and TCD hereby agree to co-operate to advance botanical research and the education and training of students.

Co-operation shall include, but not be limited to:

- 6.1 Exchanging relevant information relating to their activities, policies and future plans;
- 6.2 Fostering the development of the scientific and methodological framework for effective botanical research;
- 6.3 Contributing to each other's strategic documents, such as strategies, action plans and specific technical publications;
- 6.4 Designating persons in each organisation to act as liaison points for regular contact;
- 6.5 Developing, as appropriate, joint projects, including associated funding applications to donors, in areas of mutual interest;
- 6.6 Promoting and undertaking joint activities in field and other projects in specific areas of mutual concern, including, but not limited to research on Botany in accordance with all applicable access laws and regulations and in

accordance with all applicable permits, prior informed consent and/or licences and in an ecologically sustainable manner;

- 6.7 Arising from 6.6 above, the accession of the first set or unicate, herbarium specimens by the KKU herbarium, with a second set of herbarium specimens transferred to the Republic of Ireland for accession into the permanent collection of the TCD herbarium;
  - 6.8 Arising from 6.6 above, the comparative observation, characterisation, analysis, databasing and imaging of the Herbarium Material to better understand its identification, classification and evolution, including the carrying-out of sampling for pollen, DNA, chemicals and anatomical preparations. To avoid doubt, the Herbarium Material may be loaned or supplied to other scientific institutions or accessed by authorised visitors for the purposes of such further scientific research;
  - 6.9 Arising from 6.6 above KKU shall work with the appropriate Thai authorities, such as the Department of National Parks, Wildlife and Plant Conservation ("DNP"), the National Research Council of Thailand ("NRCT") and TCD shall work with the appropriate Irish authorities, to facilitate the acquisition of the necessary authorisation(s) to enable the collection, transfer, study and conservation of the Herbarium Material by KKU and TCD and to facilitate the attendance of appropriate staff personnel at relevant courses, workshops and research projects in Thailand and in the Republic of Ireland: for example, to obtain appropriate research and/or CITES and/or exit permits and to complete appropriate visa formalities.
  - 6.10 Generation and dissemination of appropriate scientific information to encourage and facilitate the conservation of the Flora of Thailand;
  - 6.11 Working together to fairly and equitably share the benefits arising from the collection, study and conservation of the Herbarium Material;
  - 6.12 Creating appropriate links to the web pages of the other party;
  - 6.13 Seeking to promote greater public awareness of the importance of both institutions and of their activities amongst the general public and with other collaborators, and
  - 6.14 Providing advice and assistance as appropriate and available for the development of programmes and activities of either institution.
7. KKU shall:
- 7.1. Seek to identify and encourage of appropriately qualified students of KKU to apply to TCD for undergraduate and post-graduate courses;
  - 7.2. Provide work space and local support, as appropriate and where available, for TCD's post-graduate students;
  - 7.3. Provide work space and local support, as appropriate and where available, for academic staff of TCD's Botany Department;
  - 7.4. Assist in the co-supervision of TCD's post-graduate students for which it provides work space at Khon Kaen, and

- 7.5. When appropriate, provide duplicate plant material (in the form of seeds, living specimens and preserved material) to TCD to support research programmes of TCD and for long-term conservation in its herbarium and in the seed bank of the Trinity College Botanic Gardens. Such material shall include but not be exclusively material derived from joint or collaborative research projects<sup>1</sup>.
8. TCD shall:
- 8.1. Help to identify and encourage the application of appropriately qualified students to TCD for post-graduate courses run between the Botany Department, University of Dublin, Trinity College and the Biology Department, Khon Kaen University;
- 8.2. Provide appropriate staff teaching, as appropriate and where available, for KKU's post-graduate students in Biology for which it provides work space at TCD;
- 8.3. When appropriate, provide duplicate plant material (in the form of seeds, living specimens and preserved material) to be added to the collections of the Arboretum of KKU's Biology Department, both to support joint collaborative research projects and for long-term conservation;
- 8.4. Provide work space and local support, as appropriate and where available, for a number of academic staff of KKU's Biology Department, and
- 8.5. Not Commercialise<sup>2</sup> any Herbarium Material acquired by TCD under this MoU but without prejudice to the foregoing, any Commercialisation to which TCD and KKU may agree shall be subject to a separate written agreement.
- 9.0 Furthermore, both partners:
- 9.1. agree to hold regular consultations, at intervals of not less than two years, on priorities and planned programmes of the two organisations in the field of botanical research, with the aim of ensuring that close and effective co-operation continues;
- 9.2. agree to make every effort to implement this MoU within their mandate and available resources;
- 9.3. understand that this MoU shall not create any legal or binding obligation on either party to the MoU and recognise that no financial obligations shall be expected of either party to this agreement;

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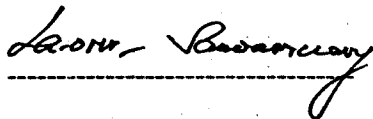
<sup>1</sup> All such exchanges of material shall be carried out in accordance with applicable terms and conditions that exist under national law, the provisions of the Convention on Biological Diversity and/or any existing Prior Informed Consent and and/or Mutually Agreed Terms agreements with third parties. All material exchanged between both institutions shall be subject to separate Material Transfer Agreements agreed as required.

<sup>2</sup> For the purpose of this MoU, "Commercialise" or "Commercialisation" shall mean applying for, obtaining or transferring intellectual property rights or other tangible or intangible rights by sale or licence or in any other manner; commencement of product development; conducting market research and seeking pre-market approval; and/or the sale of any resulting product.

- 9.4. agree that this MoU will remain in force indefinitely, subject to biennial reviews, unless terminated in writing by either signatory providing six months' notice;
- 9.5. agree that this MoU in no way restricts participants from involvement in similar activities with other private and public organisations and individuals, and
- 9.6. agree that this MoU can be amended at any time through mutual agreement expressed in writing. Such amendment, once approved by both parties, will become part of this MoU.

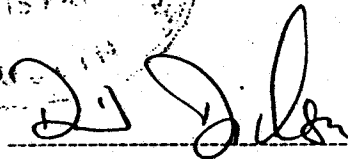
AS WITNESSED IN TWO IDENTICAL COPIES IN THE ENGLISH LANGUAGE, BOTH COPIES BEING EQUALLY AUTHENTIC, BY THE DULY AUTHORISED REPRESENTATIVES OF KHON KAEN UNIVERSITY (HERETOFORE KKU) AND THE PROVOST, FELLOWS AND SCHOLARS OF THE COLLEGE OF THE HOLY AND UNDIVIDED TRINITY OF QUEEN ELIZABETH NEAR DUBLIN (HERETOFORE TCD)

Signed:

  
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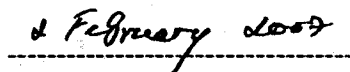
Name:  
(Professor Dr La-orsri Sanoamuang)  
Dean of Faculty of Science,  
Khon Kaen University

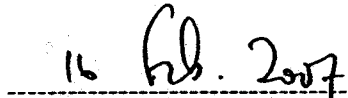


  
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(Professor David Dickson)  
Registrar,  
University of Dublin, Trinity College

Date:

  
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For and On Behalf of  
President, Khon Kaen University

For and On Behalf of  
The Provost, Fellows and Scholars of the  
College of the Holy and Undivided Trinity  
of Queen Elizabeth near Dublin