

Patent and Tangible Research Policy

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1. PREAMBLE

1.1 This policy implements the Patent and Copyright Policies of The University of North Carolina System. The North Carolina Arboretum, administers the policy and develops and implements procedures necessary for its administration.

1.2 The purpose of The North Carolina Arboretum (hereafter “Arboretum”), as set forth in North Carolina General Statutes §116-1, is instruction, research, and public service. The Arboretum’s mission is to connect people and plants through education, research and exceptional learning experiences using sustainable practices.

1.3 It is in the public interest for the Arboretum, when appropriate, to secure intellectual property protection for the products of its research to facilitate commercialization, to encourage entrepreneurship, to contribute to the professional development of University inventors, and to enhance the educational opportunities of participating students. As a non-profit educational institution, and the recipient of federal and state the Arboretum has an obligation to ensure that public property, including intellectual property, is used for the public good and not for the unjust enrichment of any one party at public expense. Consistent with this obligation, the Arboretum endeavors to commercialize the inventions of its inventors, to share economic benefits with the inventors, and to support further research and innovation.

1.4 The Arboretum is committed to preserving academic freedom in implementing state and institutional policies regarding protection and management of intellectual property. Additionally, the Arboretum applies these policies with thoughtful consideration of the fundamental academic and scientific interests in the free flow of ideas and sharing of research resources for the advancement of science and technology.

2. DEFINITIONS

2.1 SCOPE OF EMPLOYMENT means directly related to employment responsibilities at the Arboretum through the University system.

2.2 GROSS REVENUE means all income actually received by the Arboretum as consideration for the license, option, or other transfer of rights to INVENTIONS that are subject to the Patent and Tangible Research Policy, including, but not limited to, option fees, royalties, license issue fees (whether cash or equity when liquidated), and milestone payments, less any amount required to be paid from gross receipts without deduction to another entity pursuant to a sponsored research agreement, inter-institutional agreement or other legally binding agreement.

2.3 INVENTION means technical information, trade secrets, developments, discoveries, inventions, processes, compositions, life forms, TANGIBLE RESEARCH MATERIALS, know-how, methods, formulae, data, processes and other proprietary information or matter, whether patentable or not.

2.4 INVENTOR means one who makes an inventive contribution to the INVENTION and, for patentable subject matter, meets the criteria for inventorship under United States patent laws and regulations, meaning that an inventor must have contributed to the conception of ideas claimed in a patent.

2.5 NET REVENUE means GROSS REVENUE minus all direct out-of-pocket costs associated with Arboretum's ownership and/or administration of INVENTIONS, including but not limited to costs of (1) evaluating invention disclosures, (2) patentability or trademark searches, (3) drafting and prosecuting intellectual property applications, (4) preparing and recording assignments, (5) maintaining patents or other intellectual property, (6) marketing and licensing of inventions, and (7) litigation for the enforcement or protection of intellectual property, for royalty collection, or for any other claim filed by or against the Arboretum and related to the Arboretum's administration of intellectual property, including prosecution or defense of same, attorneys' fees, court costs, expert fees, compromise, settlement, and judgment satisfaction.

2.6 North Carolina Arboretum General Fund means GROSS REVENUE earned from patent and licensing activity less those distributions required under the Revenue Sharing provision of this policy. The North Carolina General Fund may be used to support research, which may include expenses incurred by the Arboretum in operating the Arboretum or any successor unit managing the Arboretum's intellectual property.

2.7 SUBSTANTIAL USE OF ARBORETUM RESOURCES means the use of Arboretum-administered funds or the use of facilities, personnel, equipment, materials, or other resources available to the INVENTOR because of the INVENTOR'S affiliation with the University system and the Arboretum. However, *de minimis* use of office, library resources, personal computer, and/or software, is

not regarded as SUBSTANTIAL USE OF ARBORETUM RESOURCES. For students enrolled in a course of study, use of course laboratory, computing and library facilities, software, supplies and materials at a level ordinarily provided to students in the course are not considered to be SUBSTANTIAL USE OF ARBORETUM RESOURCES.

2.8 TANGIBLE RESEARCH MATERIAL means unique research products or tools, such as biological materials or chemical compounds, whether or not patentable. Biological materials include organisms, transgenic animals, plants and plant varieties, cells, cell lines, viruses, cell products, cloned DNA, DNA sequences, nucleic acid and protein sequences, transgenic animals, mapping information and crystallographic coordinates.

3. APPLICABILITY

3.1 This Patent and Tangible Research Policy (“Patent Policy”) is applicable to all faculty and other EHRA employees, SHRA employees, adjunct faculty, visiting faculty or other visitors using research facilities (including but not limited to individuals on sabbatical from another university or research facility), post-doctoral employees, graduate students, and undergraduate students participating in research as employees or otherwise.

4. OWNERSHIP

4.1 Arboretum Ownership. All INVENTIONS arising from (1) research conducted with Arboretum-administered funds, (2) work within the INVENTOR’S SCOPE OF EMPLOYMENT, or (3) the SUBSTANTIAL USE OF ARBORETUM RESOURCES are owned by the Arboretum.

4.2 Sponsored Research/Arboretum-Administered Funds. Federal law requires institutions receiving federal research funding to have policies requiring the disclosure and assignment to the institution of all INVENTIONS arising from federally funded research.¹¹ To ensure compliance with the terms of federal contracts and grants, as well as those of other funding sources including industry, it is the Arboretum’s policy to require disclosure and assignment of all INVENTIONS which are conceived or reduced to practice in the course of performing research with Arboretum-administered funds, regardless of the source of such funds or the employment status of the INVENTOR.

4.3 SCOPE OF EMPLOYMENT. All INVENTIONS which are conceived or reduced to practice by INVENTORS within their SCOPE OF EMPLOYMENT, or from work carried out on Arboretum time or expense, are the property of the Arboretum.

4.4 SUBSTANTIAL USE OF ARBORETUM RESOURCES. All INVENTIONS conceived or first reduced to practice by anyone at the Arboretum or on behalf of the Arboretum making SUBSTANTIAL USE OF ARBORETUM RESOURCES are the property of the Arboretum.

4.5 Assignment of Inventions. Assignment of INVENTIONS is a condition of employment, enrollment, or access to Arboretum laboratories/research facilities. In the case of Arboretum ownership pursuant to 4.1 through 4.4, INVENTORS hereby irrevocably assign to the Arboretum, all right, title and interest in and to the INVENTIONS and related patent applications and patents, and shall cooperate fully with the Arboretum in the preparation and prosecution of patent applications and patents.

4.6 Patent Agreement. Faculty and other EHRA, employees, SHRA employees, adjunct faculty, visiting scholars/scientists, post-doctoral employees, graduate students, and undergraduate students participating in research as employees or otherwise shall sign a Patent Agreement. Signature is a condition of employment and/or matriculation. Students who are pursuing only non-research related studies are not obligated to sign a Patent Agreement.

6. CONSULTING AND THE PATENT POLICY

6.1 Conflicts of Interest. The Board of Governors Policy on Conflicts of Interest and Commitment, UNC Policy Manual, 300.2.2, recognizes the value to the University and Arboretum of permitting faculty and EHRA employees to engage in professional consulting. This activity can enhance the competence and expertise of faculty (includes EHRA employees for purposes of this Article 5) and may aid in the development of Arboretum intellectual property and university-industry relations. However, private consulting may create a conflict of interest when the company's consulting contract requires that faculty assign intellectual property or accept other terms inconsistent with the individual's Arboretum's employment contract. In all consulting relationships, employees have a duty to ensure that their employment responsibilities to the Arboretum are not compromised in a consulting agreement.

6.1.1 Employees may not sign patent agreements with outside entities or individuals that may abrogate the Arboretum's rights as stated in the Patent Policy or as provided in any sponsored research agreement or grant. For example, faculty and employees should not accept contract terms that (1) prohibit publication of proprietary data in a technical area that overlaps with his/her Arboretum research or the reporting of results to research sponsors; (2) preclude the faculty or employee from assigning to the Arboretum intellectual

property owned by the Arboretum or (3) are designed to circumvent University and Arboretum policies and procedures for disclosure of INVENTIONS.

6.2 Disclosure. It is the responsibility of the Arboretum INVENTOR to disclose all INVENTIONS to which the Patent Policy applies (under Articles 3 and 4 above) to the Executive Director of The North Carolina Arboretum. However, in the case of an INVENTION conceived or first reduced to practice pursuant to a consulting agreement, the disclosure may be non-proprietary as long as the INVENTOR provides sufficient relevant information for the Arboretum to make an ownership determination.

6.3 Ownership. Ownership of INVENTIONS arising under consulting agreements will be determined in accordance with the Patent Policy of the North Carolina Arboretum and, to the extent that any terms of a consulting agreement are inconsistent with the Arboretum Patent Policy, the Arboretum Policy will control. However, the Arboretum will make no claim to an INVENTION if the INVENTION is neither made nor conceived under circumstances involving Arboretum administered funds, resources or personnel other than the consultant and is either (i) made²ⁱ in the course of performance of the services described in a written consulting agreement or (ii) made in response to a problem posed by the company or based on company proprietary information provided to the consultant.

7. INVENTION ADMINISTRATION

7.1 Disclosure. INVENTORS will file invention disclosures for all INVENTIONS covered by the Patent Policy with the Executive Director when, in the judgment of the INVENTOR, there is reason to believe that the INVENTION is patentable or otherwise protectable under intellectual property laws of the United States or has commercial value. The disclosure will not be considered complete until all required information has been provided. Since publication or public use can be an immediate bar to patentability in most foreign countries, it is the duty of the inventor to report to the Executive Director any publication, submission of manuscript for publication, sale, public use, or plans for sale or public use, of an INVENTION sufficiently in advance so that the Executive Director can consider measures to protect the Arboretum's intellectual property interests.

7.2 Receipt and Acknowledgement. The Executive Director will acknowledge in writing to the INVENTOR, the receipt of disclosures, and will conduct disclosure review in accordance with its standard operating procedure. The Executive Director is responsible for evaluating INVENTIONS and determining whether to administer such INVENTIONS by undertaking actions it deems appropriate to protect, license, or otherwise commercialize them.

7.3 Review. The Executive Director will review the INVENTION disclosure, confer with the INVENTOR(S), and report in writing to the INVENTOR/S its determination whether the Arboretum will retain title and pursue patent protection and/or commercialization.

7.4 Inventor Cooperation. The INVENTOR, upon the Executive Director's request, shall sign all contracts, assignments, declarations, waivers or other legal documents necessary to vest all INVENTION rights in the Arboretum or its assignees, including complete assignment of any patent, patent applications, trademarks, or copyrights relating to the INVENTION. In addition, the INVENTOR shall cooperate with the Executive Director and patent counsel if the Arboretum files for intellectual property protection.

7.5 Declined Administration. The Executive Director may decline or cease INVENTION administration due to lack of resources, uncertainty of patent protection, lack of commercial interest, or other reasons the Executive Director deems appropriate. In such case, the Executive Director of the Arboretum may assign the INVENTION to the INVENTOR(S), subject to any rights retained by the United States Government or other sponsor. In addition, the INVENTOR shall agree (1) that the Arboretum reserves a royalty-free, non-exclusive, irrevocable right to use the INVENTION for research and educational purposes; (2) to allow other academic and non-profit institutions similar use on similar terms; and (3) to indemnify the Arboretum against any liability arising from commercialization. All requests by INVENTOR(S) related to assignment of INVENTION rights to the INVENTOR(S) must be submitted in writing to the Executive Director.

8. REVENUE SHARING

It is the policy of The North Carolina Arboretum and University of North Carolina system to distribute any NET REVENUES received from commercialization of INVENTIONS among the INVENTOR, and the North Carolina Arboretum General Fund. NET REVENUES do not include funds received as gifts or for the support of sponsored research.

8.1 Distribution

NET REVENUE shall be distributed as follows:

15% to INVENTORS

85% to The North Carolina Arboretum General Fund

Examples of innovation and entrepreneurship support include, but are not limited to, research investments to support applied research with commercial applications, faculty start-up packages, multi-user or research service laboratory equipment purchases, research cost share, and assisting the Executive Director and NC Arboretum with expenses associated with patent filings.

8.2 Co-Inventions. When two or more co-inventors are associated with an INVENTION, the applicable percentage of NET REVENUE shall be divided equally unless all co-inventors, prior to first distribution of NET REVENUE, establish in a written agreement that all INVENTORS agree to an alternative share of royalties. Request for a non-equal distribution of NET REVENUE must be submitted in writing to the Executive Director of The North Carolina Arboretum.

8.3 Minimum. In no event may the amount payable by the Arboretum to the INVENTORS in the aggregate be less than 15% of GROSS REVENUE received for an INVENTION.

8.4 Tangible Research Materials. To the extent practicable, TANGIBLE RESEARCH MATERIALS shall be treated as INVENTIONS for purposes of ownership and royalty sharing. The Executive Director will promulgate rules regarding distribution of revenue for TANGIBLE RESEARCH MATERIALS that are not the subject of a patent application.

8.5 Additional Rules. The Executive Director shall adopt such other rules and procedures as needed to administer royalty distribution equitably and consistently with UNC System and University policies.

9. INTELLECTUAL PROPERTY COMMITTEE

9.1 Appointment. The Executive Director shall appoint a Research Advisory Committee (RAC), which shall serve as an advisory board to the Executive Director. The RAC shall be chaired by the Executive and shall consist of Arboretum board members, chosen for diversity of scientific disciplines and commercial expertise.

9.2 Duties. The RAC may be asked to:

9.2.1 review, recommend and advise the Arboretum on matters relating to the Patent Policy;

9.2.2 serve as an advisory body to the Executive Director of the Arboretum on all matters relating to innovation; and

9.2.3 serve as a committee to which an inventor may appeal decisions made by the Executive Director.

The Arboretum staff may seek advice from individual RAC members and may consult with scientific and business professionals outside the Arboretum.

9.3 Appeals. When any employee or student disputes a decision taken in application of the Patent Policy by the Executive Director, he or she may file a written appeal to the The North Carolina Arboretum State Board. Arboretum INVENTORS shall be entitled to appear before the Board and present evidence with respect to any matter specifically involving the application of this policy to them or their work. The Board will review the matter and make a recommendation to the Executive Director. The Executive Director will issue the final university and Arboretum written decision to the employee or student and the Board.

9.4 Exceptions. Exceptions to this Policy may be approved by the Executive Director consistent with UNC policies and federal and state law.

[1] 35 U.S.C. 200-212 http://www.uspto.gov/web/offices/pac/mpep/consolidated_laws.pdf

[2] For purposes of this Policy, an INVENTION is “made” by an employee if the employee would be considered an inventor of the INVENTION under U.S. patent law.