

To the University Community

On April 20, 1993, an *Almanac Supplement* presented a *For Comment* version of "Proposed Revision of Patent and Tangible Research Property Policies." On the basis of the response to that publication, the procedures relating to the distribution of royalties and of equity and guidelines for outside employment and consulting agreements were reorganized and restated for purposes of clarification. The Preamble and the Policy Statements were submitted to the Trustees on June 18, 1993 for ratification as University policy. The Procedures Sections have been approved by the Office of the President in consultation with the Provost. This *Of Record* publication presents the official revised Patent and Tangible Research Property Policies and Procedures ("Patent Policy") of the University as of July 1, 1993.

These two Policies represent the first sections of a comprehensive Intellectual Property Policy and Procedure document for the University. Efforts in drafting the sections for Copyrights, Computer Software, Ownership of Data, and Trademarks will begin this semester. Progress will be reported periodically in *Almanac*.

We would like to express our personal thanks to those faculty and staff who participated in the development of these new policies and procedures.

Claire M. Fagin
Interim President

Marvin Lazerson
Interim Provost

Patent and Tangible Research Property Policies and Procedures of the University of Pennsylvania

Article 1. Preamble to the Policies and Procedures

1.0 The Trustees of the University of Pennsylvania affirm the following principles as the basis for governing the intellectual property created by faculty, employees, students and guest scholars of the University:

1.1 The mission of the University includes the stimulation of basic and applied research activities of faculty, employees and students of the University, and the dissemination of the results of their research for the purpose of adding to the body of knowledge and serving the public interest.

1.2 The University endeavors, where appropriate, to secure intellectual property protection for the products of such research and to encourage commercial investment in and development of University intellectual property for the benefit of the public.

1.3 The community has endowed the University with certain privileges, resources and assets in the expectation that no single party will derive sole benefit or be unjustly enriched from what the community has endowed to the University.

1.4 The University as a non-profit organization endeavors to marshal its resources and exploit its assets to serve the public interest, and in so doing reinvests in the research enterprises of its faculty, employees and students. Members of the University community share in the University's responsibility to serve the public interest, and therein have a duty to disclose and assign their inventions which may arise prior to, but no later than, the time the inventions are made.

1.5 The University is regularly the recipient of grants from the government, foundations or commercial enterprises for the support of research, and is subject to legal and contractual obligations imposed by these entities.

1.6 The University wishes to share the economic benefits of inventions or other intellectual property with the creators of such works in a way that is consistent with the research and educational mission of the University, and conforms to the University's obligations to regulatory authorities, research sponsors and licensees.

1.7 In protecting and managing its intellectual property assets, the University insists that the academic freedom of its faculty and students be preserved, and that collegiality and the open expression of ideas by and among members of the University community be encouraged.

Having established the principles governing intellectual property at the University of Pennsylvania, the Trustees hereby decree as follows:

Article 2. Policy and Procedures on Inventions and Patents

Note: Words appearing in capital letters are defined in Article 4 unless they are defined in the document.

2.0 Policy Statement on Inventions and Patents. It is the policy of the University that all INVENTIONS, together with associated MATERIALS, which are conceived or reduced to practice by INVENTORS in the course of employment at the University, or result from work directly related to professional or employment responsibilities at the University, or from work carried out on University time, or at University expense, or with substantial use of University resources under grants or otherwise, shall be the property of the University as of the time such INVENTIONS are conceived or reduced to practice. INVENTORS shall assign to the University all right, title and interest in and to the INVENTIONS, MATERIALS and related patents and shall cooperate fully with the University in the preparation and prosecution of patents. Patents, as they may be available on such INVENTIONS may be applied for in any country by the University. The University will exercise its ownership and management of such INVENTIONS, with or without economic benefit, with due regard for the principles set forth in the Preamble of this Policy. Procedures for implementation of this Policy, including a PARTICIPATION AGREEMENT, shall be developed and promulgated by the President of the University. Hereinafter, the foregoing text shall be referred to as the "PATENT POLICY." (January, 1966; restated, July 1, 1993)

2.1 Procedures for the Administration and Management of Inventions and Patents. The following procedures have been approved by the President as of the EFFECTIVE DATE:

2.1.1 Participation Agreement. All faculty, emeritus faculty, visiting faculty or other visitors using research facilities, researchers, adjunct faculty, post-doctoral employees, graduate students, and undergraduate students participating in sponsored research as employees or otherwise, and all salaried employees, shall execute a PARTICIPATION AGREEMENT (Appendix A) as a condition of employment, participation in sponsored research or use of University resources. Notwithstanding the above, an individual acknowledges that he or she is bound by the PATENT POLICY by accepting or continuing University employment or by using University resources or facilities. All students shall be advised of the University's intellectual property policies and procedures through publication of the policies in the manual, *University Policies and Procedures*.

2.1.2 Disclosure and Review. INVENTORS shall file INVENTION DISCLOSURES for all INVENTIONS covered by the PATENT POLICY

promptly with the CENTER FOR TECHNOLOGY TRANSFER (CTT) at the University. The CTT shall direct the review and management of the INVENTIONS under procedures and practices instituted and monitored by the ADVISORY BOARD. Upon the request of the INTELLECTUAL PROPERTY ADMINISTRATOR (IPA), an INVENTOR shall assign in writing to "The Trustees of the University of Pennsylvania" all right, title and interest in and to any INVENTION.

2.1.3 Inventions Outside the Policy. If an INVENTOR believes that a given INVENTION was made outside the scope of the PATENT POLICY, he or she shall provide the IPA with a written statement of the circumstances leading to the making of the INVENTION. If, after reviewing the facts, the IPA determines that the INVENTION falls outside the scope of the PATENT POLICY, the IPA shall confirm in writing that the University has no right, title and interest to the INVENTION. If the facts are equivocal, or if the IPA believes that such INVENTION falls under the PATENT POLICY, the matter of ownership may be referred by the IPA or the INVENTOR to the ADVISORY BOARD for a decision. The ADVISORY BOARD shall have procedures for resolving such matters or for making such determinations.

2.1.4 Student Inventions.

2.1.4.1 INVENTIONS made by undergraduate students will remain the property of the students except when an INVENTION is made in the course of employment at the University, or results from work directly related to employment responsibilities at the University, or from work performed under a grant or other sponsorship, or undertaken with other INVENTORS who have a duty to make ASSIGNMENT to the University. In such instances, undergraduate students will make ASSIGNMENT to the University and will share in the distribution of royalties.

2.1.4.2 INVENTIONS made by graduate students in the course of employment at the University or research carried out in University laboratories as part of a post-baccalaureate or postdoctoral degree or non-degree program, or resulting from work directly related to the graduate student's employment or research responsibilities at the University, or from work performed under a grant or other sponsorship, or undertaken with other INVENTORS who have a duty to make ASSIGNMENT to the University, shall be the property of the University and shall be subject to the PATENT POLICY. Any INVENTIONS arising from a dissertation submitted as a part of the requirements for a degree shall be subject to the PATENT POLICY. In such instances, graduate students will make ASSIGNMENT to the University and will share in the distribution of royalties.

2.1.5 Return of Inventions.

2.1.5.1 Inventions Made without Outside Sponsorship. If an INVENTION is made without sponsorship of the federal government or other sponsor, and the University does not wish to pursue a patent application in the United States or other jurisdiction, or elects to abandon a pending patent application, or does not wish to own an issued patent on a given INVENTION, the IPA may, in consultation with the ADVISORY BOARD, return all right, title and interest to the INVENTION, patent application or issued patent to the INVENTORS.

2.1.5.2 Inventions Made with Outside Sponsorship. If an INVENTION is made with sponsorship of the federal government or other sponsor, and the University does not wish to pursue a patent application in the United States or other jurisdiction, or elects to abandon a pending patent application, or does not wish to own an issued patent on a given INVENTION, and the United States Government or other sponsor waives ownership rights, if any, the IPA may, in consultation with the ADVISORY BOARD, return all right, title and interest to the INVENTION, patent application or issued patent to the INVENTORS, subject to any other rights retained by the United States Government or other sponsors.

2.1.5.3 INVENTIONS may be returned on an unconditional basis, or with conditions appropriate to the circumstances.

2.1.5.4 If the University elects to return an INVENTION made by more than one INVENTOR, the University will return an undivided interest, as defined by prevailing United States patent law, to each INVENTOR,

unless directed otherwise in writing by all INVENTORS.

2.1.5.5 In every case in which an INVENTION is returned to an INVENTOR, the University hereby reserves a royalty free, non-exclusive right to practice the INVENTION for research, educational or other purposes.

2.1.5.6 INVENTORS have the obligation to disclose to the IPA, and make ASSIGNMENT of, improvements on returned INVENTIONS at the time such improvements are made, if such improvements are made under circumstances subject to the PATENT POLICY.

2.2 Conveyance of Rights to Inventions

2.2.1 Licensing. The University may convey rights to its INVENTIONS through license agreements under the terms of which the University retains all right, title and interest in and to its INVENTIONS, while granting to a commercial entity the right to make, use, and/or sell products based on the INVENTION(S).

2.2.1.1 INVENTORS or other University faculty or employees involved in the licensing of an INVENTION to a prospective licensee shall disclose any fiduciary or financial interest in or contractual relationship with the prospective licensee to their deans and chairs, or their relevant administrative supervisor in accordance with the applicable University policy on conflicts of interest. In addition, INVENTORS or other University faculty or employees involved in the licensing of an INVENTION to a prospective licensee shall disclose any fiduciary or financial interest in that prospective licensee to the IPA, who shall refer consideration of the matter to the ADVISORY BOARD.

2.2.2 Exceptions to Licensing. Exceptions to the requirement that rights be conveyed through a license agreement shall be considered only in extreme or unusual circumstances and shall require approval by the President of the University.

2.3 Distribution of Net Royalty Income, the Equity Pool and Net Equity Income from Licensed Inventions

2.3.1 Distribution of Net Royalty Income. NET ROYALTY INCOME shall be distributed as follows:

PERCENT OF NET ROYALTY INCOME		
INVENTORS PERSONAL SHARE (<i>See 2.3.4</i>):	30.0%	
INVENTORS RESEARCH ACTIVITY SHARE (<i>See 2.3.5</i>):	15.0%	(to CAP A)
DEPARTMENTS OF INVENTORS SHARE (<i>See 2.3.6</i>):	15.0%	(to CAP B)
SCHOOLS OF INVENTORS SHARE (<i>See 2.3.7</i>):	17.5%	(to CAP A)
	27.0%	(after CAP A)
	36.0%	(after CAPS A & B)
RESEARCH FOUNDATION SHARE (<i>See 2.3.8</i>):	17.5%	(to CAP A)
	23.0%	(after CAP A)
	29.0%	(after CAPS A & B)
INTELLECTUAL PROPERTY FUND SHARE (<i>See 2.3.9</i>):	5.0%	
TOTAL DISTRIBUTION OF NET ROYALTY INCOME:	100.0%	

2.3.2 Distribution of the EQUITY POOL. Under license agreements for which the University has negotiated an EQUITY POOL, the INVENTORS shall receive 30% of the EQUITY POOL, unless one or more INVENTOR receives EQUITY from the licensee outside of the EQUITY POOL. An INVENTOR who receives EQUITY from the licensee outside of the EQUITY POOL shall not receive EQUITY from the EQUITY POOL except with approval of the University. The IPA shall make a recommendation in this regard to the Vice Provost for Research, who shall make a determination in consultation with the relevant Deans. Furthermore, if one or more INVENTOR receives EQUITY outside of the EQUITY POOL, the portion of the EQUITY POOL to be received by the other INVENTORS shall be

reduced in proportion to the contribution to the licensed INVENTIONS, as determined by the CTT, made by the INVENTORS who receive EQUITY outside of the EQUITY POOL. (Rules governing licensing transactions for EQUITY are discussed in Appendix E.)

2.3.2.1 INVENTORS receiving EQUITY from the EQUITY POOL or outside the EQUITY POOL may also receive INVENTORS PERSONAL SHARE of NET ROYALTY INCOME under Section 2.3.1. An exception to this may arise in certain circumstances, such as when INVENTORS receive founders stock, stock for consulting services or other consideration from the licensee. In such cases, the University may determine that such INVENTORS shall not receive some or any of the INVENTORS PERSONAL SHARE of NET ROYALTY INCOME. The IPA shall make a recommendation in this regard to the Vice Provost for Research, who shall make a determination in consultation with the relevant Deans.

2.3.3 Distribution of Net Equity Income. NET EQUITY INCOME shall be distributed as follows:

PERCENT OF NET EQUITY INCOME		
INVENTORS RESEARCH ACTIVITY SHARE (See 2.3.5):	21.5%	(to CAP A)
DEPARTMENTS OF INVENTORS SHARE (See 2.3.6):	21.5%	(to CAP B)
SCHOOLS OF INVENTORS SHARE (See 2.3.7):	26.0%	(to CAP A)
	40.0%	(after CAP A)
	52.0%	(after CAPS A & B)
RESEARCH FOUNDATION SHARE (See 2.3.8):	26.0%	(to CAP A)
	33.5%	(after CAP A)
	43.0%	(after CAPS A & B)
INTELLECTUAL PROPERTY FUND SHARE (See 2.3.9):	5.0%	
TOTAL DISTRIBUTION OF NET EQUITY INCOME:	100.0%	

2.3.4 Rules Governing the Inventors Personal Share. The INVENTORS PERSONAL SHARE of NET ROYALTY INCOME under Sections 2.3.1 shall be distributed among all INVENTORS (if more than one), as the INVENTORS unanimously designate in writing to the IPA. If the INVENTORS fail to make such unanimous written designation before the license agreement is executed, the INVENTORS PERSONAL SHARE of NET ROYALTY INCOME shall be distributed among all INVENTORS as the CTT, in its sole discretion, shall designate. The INVENTORS share of the EQUITY POOL under Section 2.3.2 shall be distributed among all INVENTORS entitled to share in the EQUITY POOL (if more than one), as such INVENTORS unanimously designate in writing to the IPA. If the INVENTORS entitled to share in the EQUITY POOL fail to make such unanimous written designation before the license agreement is executed, the INVENTORS share of the EQUITY POOL shall be distributed among INVENTORS entitled to share in the EQUITY POOL as the CTT, in its sole discretion, shall designate.

2.3.4.1 If an INVENTOR ceases employment at the University, his or her designated portion of the INVENTORS PERSONAL SHARE of NET ROYALTY INCOME under Section 2.3.1 and of the INVENTORS share of the EQUITY POOL under Section 2.3.2 shall remain payable to such INVENTOR.

2.3.5 Rules Governing the Inventors Research Activity Share. The INVENTORS RESEARCH ACTIVITY SHARE, when the INVENTORS are faculty, shall be used only for research purposes through a budget approved by the Dean(s) of the relevant School(s).

2.3.5.1 The INVENTORS RESEARCH ACTIVITY SHARE shall be divided equally among the INVENTORS (if more than one) unless the INVENTORS unanimously request in writing, and the Vice Provost for Research approves, some other distribution.

2.3.5.2 If a sole INVENTOR leaves the University, the INVENTORS RESEARCH ACTIVITY SHARE shall be distributed to the

INVENTOR'S School at the University to support research in the School at the University. If there is more than one INVENTOR, and one of those INVENTORS leaves the University, that share shall be distributed evenly to support the research activity of the INVENTORS who remain. If no INVENTORS remain at the University, the INVENTORS RESEARCH ACTIVITY SHARE will be distributed to the INVENTORS' School(s) to support research in the School(s).

2.3.5.3 CAP A is reached when a total of \$500,000 has been distributed as INVENTORS RESEARCH ACTIVITY SHARE from all licenses for a given INVENTION or set of related INVENTIONS, as determined by the CTT, regardless of the number of INVENTORS. The \$500,000 cap will be indexed to inflation and will be adjusted on the anniversary of each EFFECTIVE DATE using the Research & Development Price Index.

2.3.5.4 When INVENTORS are students, graduate students or post-doctoral employees, their corresponding INVENTORS RESEARCH ACTIVITY SHARE shall be distributed to the laboratory to which they are assigned. If such INVENTORS do not have a primary laboratory affiliation, their corresponding INVENTORS RESEARCH ACTIVITY SHARE shall be distributed to their Department. Income so distributed shall be used to further the education and research activity of the INVENTOR while at the University and/or for other research purposes through a budget approved by the Dean(s) of the relevant School(s).

2.3.6 Rules Governing the Departments of Inventors Share. The DEPARTMENTS OF INVENTORS SHARE shall be used only for research purposes through a budget approved by the Dean(s) of the relevant School(s).

2.3.6.1 If an INVENTION is made by INVENTORS within a Division, Research Center, or Institute, the Department(s) of the INVENTORS may make an equitable distribution of income to that Division, Research Center, or Institute from the DEPARTMENTS OF INVENTORS SHARE.

2.3.6.2 If an INVENTION is made by INVENTORS from different Departments, the DEPARTMENTS OF INVENTORS SHARE shall be divided among the Departments in proportion to the number of faculty INVENTORS from each Department until each Department receives an amount equal to \$200,000 per each full-time salaried standing and research faculty member in the Department in the first year any of the licensed INVENTIONS was disclosed (to a maximum of \$5,000,000 per Department). A Department shall retain its portion of the DEPARTMENTS OF INVENTORS SHARE if an INVENTOR from that Department leaves the University.

2.3.6.3 CAP B is the maximum amount to be made available for the Departments of all involved INVENTORS from all licenses for a given INVENTION or set of related INVENTIONS. It equals the sum of \$200,000 per each full-time, salaried standing and research faculty member in each relevant Department (to a maximum \$5,000,000 per Department) as of October 1 of the year during which the licensed INVENTION was first disclosed to the IPA. If more than one INVENTION is licensed in a given license agreement, the number of salaried standing and research faculty members in each relevant Department in the first year in which any one of the licensed INVENTIONS was disclosed to the IPA shall be used to establish CAP B. The \$200,000 per each full-time, salaried standing and research faculty member in each relevant Department and the maximum of \$5,000,000 per Department will be indexed to inflation and will be adjusted on the anniversary of each EFFECTIVE DATE using the Research & Development Price Index.

2.3.7 Rules Governing the Schools of Inventors Share. The SCHOOLS OF INVENTORS SHARE may be used for any research purpose designated by the Dean(s) of the School(s). At the discretion of the Dean(s), any portion of the SCHOOLS OF INVENTORS SHARE may be distributed to Department(s) of the INVENTORS or used to support the research activity of the INVENTORS.

2.3.7.1. If an INVENTION is made by INVENTORS from different Schools, the SCHOOLS OF INVENTORS SHARE shall be divided among

the Schools in proportion to the number of faculty INVENTORS from each School. A School will retain its portion of SCHOOLS OF INVENTORS SHARE if an INVENTOR from that School leaves the University.

2.3.8 Rules Governing the Research Foundation Share. The RESEARCH FOUNDATION SHARE shall be used for the general support of research at the University, as provided by the Research Foundation rules. The Research Foundation will release periodic reports describing the source and use of funds.

2.3.9 Rules Governing the Intellectual Property Fund Share. The INTELLECTUAL PROPERTY FUND SHARE shall be used first to support the cost of procuring, protecting, maintaining and enforcing the intellectual property rights of the University. The IPA shall prepare a report for the ADVISORY BOARD at the end of each fiscal year describing the source and use of funds.

2.3.10 Invention Revenue Distribution for Non-Academic Inventors. When an INVENTOR is other than a faculty member, employee of an academic laboratory, student or post-doctoral employee, the distribution of NET ROYALTY INCOME or NET EQUITY INCOME other than the INVENTORS PERSONAL SHARE shall be determined by the President on a case-by-case basis with a recommendation from the IPA together with the Executive Vice President, the Chief Executive Officer of the Medical Center (where applicable), relevant Deans, and/or other involved administrative heads.

2.4 Implementation of Procedures for Distribution of Net Royalty Income and Net Equity Income:

2.4.1 Inventions Disclosed and Licensed After the Effective Date. Distribution of income from all INVENTIONS disclosed and licensed on or after the EFFECTIVE DATE shall be governed by the procedures in Section 2.3.

2.4.2 Inventions Disclosed After the Effective Date, but Licensed Before the Effective Date. Royalties for all INVENTIONS disclosed on or after the EFFECTIVE DATE that are subject to the terms of a license agreement in place before the EFFECTIVE DATE, shall be administered under the APRIL, 1981 PROCEDURES (See Appendix D), unless the INVENTOR has elected administration of NET ROYALTY INCOME for the license under the provisions of Section 2.3. If more than one INVENTOR is involved, election of the provisions of Section 2.3 must be unanimous, in writing, and signed by all INVENTORS. If such an election is made, all future royalties shall be distributed as set forth in Section 2.3.

2.4.3 Inventions Disclosed Before the Effective Date, but Licensed After the Effective Date. Distribution of income from all INVENTIONS disclosed before the EFFECTIVE DATE, but not yet subject to a license agreement as of the EFFECTIVE DATE, shall be governed by the procedures in Section 2.3.

2.4.4 Inventions Disclosed and Licensed Before the Effective Date. For license agreements in effect prior to the EFFECTIVE DATE that have already generated royalties shared with an INVENTOR and his or her research activity, the INVENTOR may elect in writing (before the first distribution of royalties received by the University after the President approves these procedures) to have NET ROYALTY INCOME administered under Section 2.3. If more than one INVENTOR is involved, election of the provisions of Section 2.3 must be unanimous, in writing, and signed by all INVENTORS. If such an election is made, all future royalties shall be distributed as set forth in Section 2.3, without offset for earlier distributions.

2.4.5 Participation by Departments and Others After Election. For those license agreements in place before the EFFECTIVE DATE where the INVENTORS have elected administration under the provisions of Section 2.3, the Department(s), the School(s), the Research Foundation and the Intellectual Property Fund shall participate in distributions as of the date of election.

2.5 Administration of Royalty Distribution and Reporting. Royalty distributions, with a report accounting for costs charged against the royalties, shall be made to each royalty recipient within 45 days of the end of

the quarter (March 31, June 30, September 30, December 31) during which royalties are received. The University will not pay interest on royalties received and held by the University pending distribution.

2.6 Use of Outside Facilities. Faculty members, employees or students who use research facilities at another institution or a corporation shall contact the IPA for assistance in evaluating the policies of the host institution or corporation as appropriate. Graduate students who are conducting research in commercial research facilities should obtain a written assurance of their right to publish the results of their research. Faculty members, employees or students who engage in outside employment or consulting agreements are referred to Appendix C.

Article 3. Policy and Procedures Relating to Tangible Research Property

3.0 Policy Statement on Tangible Research Property. TANGIBLE RESEARCH PROPERTY made by INVESTIGATORS in the course of employment at the University, or work directly related to professional or employment responsibilities at the University, or work carried out on University time, or at University expense or with substantial use of University resources under grants or otherwise is the property of the University. INVESTIGATORS shall assign to the University all right, title and interest in and to the TANGIBLE RESEARCH PROPERTY and shall cooperate fully with the University in the preparation and prosecution of patents, if applicable. The University and INVESTIGATORS will endeavor to make such property available to the research community on a reasonable basis. Procedures for the implementation of this Policy Statement and the means by which the University and INVESTIGATORS with TANGIBLE RESEARCH PROPERTY may meet their obligations to the research community shall be developed and promulgated by the President.

3.1 Procedures for the Administration and Management of Tangible Research Property. The following procedures have been approved by the President as of the EFFECTIVE DATE:

3.1.1 Methods of Transfer. TANGIBLE RESEARCH PROPERTY may be made available to others in any of three ways:

3.1.1.1 An INVESTIGATOR may provide TANGIBLE RESEARCH PROPERTY directly from his or her laboratory upon written request from another researcher for non-commercial research and/or educational purposes only. Such transfer must be made by written agreement in a form approved by the Office of the General Counsel and the CTT.

3.1.1.2 INVESTIGATORS may deposit TANGIBLE RESEARCH PROPERTY in repositories such as the American Type Culture Collection, or in the case of unique biological information such as DNA sequences or crystallographic coordinates, by submission to appropriate data banks. Such transfer must be made by written agreement in a form approved by the Office of the General Counsel and the CTT.

3.1.1.3 INVESTIGATORS may, through the CTT, license or otherwise transfer the TANGIBLE RESEARCH PROPERTY to a commercial or non-commercial entity.

3.1.2 Revenues from Transfer of Tangible Research Property. Unless prohibited by federal regulations, or the terms of a grant or award under which TANGIBLE RESEARCH PROPERTY is developed, net revenues from transfer of TANGIBLE RESEARCH PROPERTY shall be distributed as NET ROYALTY INCOME in accordance with the provisions of Section 2.3, except for the first \$50,000 which will be used to support the research activities of the INVESTIGATORS who made such TANGIBLE RESEARCH PROPERTY. To the extent revenues from licenses or transfers of TANGIBLE RESEARCH PROPERTY carried out through the CTT are not distributed as NET ROYALTY INCOME, the CTT may recover its LICENSING COSTS and other expenses and may apply an administrative charge, not to exceed 20% of such revenues, provided the INVESTIGATOR is informed and agrees in advance to such charge. License and other revenues derived from TANGIBLE RESEARCH PROPERTY may be considered program income under federal regulations

or grant terms. INVESTIGATORS shall report such revenues to the Office of Research Administration for a determination whether such revenues must be reported to the funding agency.

3.1.3 Confidentiality of Donors and Subjects. INVESTIGATORS shall protect the privacy and confidentiality of donors or subjects who provided any biological material that is the basis for TANGIBLE RESEARCH PROPERTY. Specimens derived from humans shall be procured in accordance with University policies and procedures relating to human subjects. Identifying codes linked to the donors or subjects shall be carefully protected or avoided.

Article 4. Definitions

4.0 Defined terms in this Section 4.0 apply to the PATENT POLICY and the Procedures. Defined terms used in the PATENT POLICY (underlined below) may be modified only by the Trustees of the University of Pennsylvania.

4.0.1 ADVISORY BOARD means the Advisory Board of the CTT as appointed by the Provost of the University. The mission and composition of the ADVISORY BOARD are set out in Appendix B.

4.0.2 APRIL, 1981 PROCEDURES means the royalty distribution provisions in effect until the EFFECTIVE DATE of these policies. The APRIL, 1981 PROCEDURES may apply to certain INVENTIONS licensed before the EFFECTIVE DATE, and are attached to these policies as Appendix D.

4.0.3 ASSIGNMENT means the execution of a written agreement by an INVENTOR assigning all of the INVENTOR'S right, title and interest in and to an INVENTION or TANGIBLE RESEARCH PROPERTY. INVENTIONS are assignable as of the time they are conceived or reduced to practice.

4.0.4 CENTER FOR TECHNOLOGY TRANSFER (CTT) means the administrative unit, under the direction of the INTELLECTUAL PROPERTY ADMINISTRATOR, which is responsible for the receipt, review, management and administration of intellectual property matters of the University.

4.0.5 EFFECTIVE DATE means *July 1, 1993*.

4.0.6 EQUITY means shares of stock or securities, including but not limited to stock options, warrants or any other rights to purchase stock or securities.

4.0.7 EQUITY POOL means the total allotment of EQUITY negotiated by the University as consideration for a license of the University's interests in an INVENTION or TANGIBLE RESEARCH PROPERTY.

4.0.8 INTELLECTUAL PROPERTY ADMINISTRATOR (IPA) means the managing director of the CTT.

4.0.9 INTELLECTUAL PROPERTY FUND means the account under the supervision and the control of the Vice President for Finance of the University for the patent, legal, transactional, and out-of-pocket expenses associated with procuring, protecting, maintaining and enforcing the intellectual property estate of the University.

4.0.10 INVENTION means and includes technical information, trade secrets, developments, discoveries, know-how, methods, techniques, formulae, data, processes and other proprietary ideas or matter.

4.0.11 INVENTION DISCLOSURE means the written submission to the IPA, on standard invention disclosure forms available from the CTT, of a written description of any INVENTION that an INVENTOR believes he or she has made.

4.0.12 INVENTORS means University faculty, emeritus faculty, visiting faculty, adjunct faculty, post-doctoral employees, or other employees, or students, or others who individually or jointly make an INVENTION subject to the PATENT POLICY and who meet the criteria for inventorship under United States patent laws and regulations.

4.0.13 INVESTIGATOR means any University faculty member, employee or student engaged in sponsored or unsponsored research.

4.0.14 LICENSING COSTS means all historic and on-going patent and legal costs related to the patents, patent applications or other technologies licensed, including copyright or trademark protection; licensing and other internal or out-of-pocket transactional costs; finder's fees or commissions; shares of stock or moneys paid or due under an agreement with patent management organizations; moneys due under agreements with other entities that jointly own licensed technologies; litigation or dispute resolution costs; moneys paid or due third parties as a result of settlement of or judgment in a dispute, and other costs, including but not limited to costs related to the licensing of the technologies, applicable taxes, or other expenses.

4.0.15 MATERIALS means lab notebooks, records, drawings, sketches, photographs, radiographs or other images, models, biological specimens, chemical samples, or other materials needed to support the preparation, submission, prosecution, defense or enforcement of a patent in the United States or other applicable jurisdictions.

4.0.16 NET EQUITY INCOME means the proceeds realized by the University from dividends or the sale of EQUITY received by the University in a license agreement, net of LICENSING COSTS.

4.0.17 NET ROYALTY INCOME means the revenues received from license agreements as payment for license fees, license maintenance fees, minimum royalties, sublicense fees, royalties on sales of products, settlements of lawsuits, and the like, net of LICENSING COSTS. Payments made by a licensee under a sponsored research agreement are specifically excluded as revenues for the purpose of determining NET ROYALTY INCOME.

4.0.18 PARTICIPATION AGREEMENT means a written agreement in the form of Appendix A to the PATENT POLICY, setting out rights and responsibilities of University faculty, emeritus faculty, visiting faculty, adjunct faculty, postdoctoral employees and/or other salaried employees, students, and others under the University's policies and procedures.

4.0.19 TANGIBLE RESEARCH PROPERTY means unique research products such as biological materials or chemical moieties, whether or not patentable. Categories of biological material include organisms, cells, viruses, cell products, cloned DNA, as well as DNA sequences, mapping information and crystallographic coordinates. Some specific examples of biological materials include specialized and/or genetically defined cells, including normal and diseased human cells; monoclonal cell lines; hybridoma cell lines; microbial cells and products; viruses and viral products; recombinant nucleic acid molecules; DNA probes; nucleic acid and protein sequences; and transgenic mice or other animals. Categories of chemical moieties or engineered products include sample compounds, reagents, intermediates, models, sensors, devices, equipment, computer hardware or firmware, diagrams, or computer media.

4.1 Review of Policies and Procedures. The ADVISORY BOARD together with the Vice Provost for Research shall review these Patent and Tangible Research Policies and Procedures from time to time to determine whether they are accomplishing their intended purpose and are in conformity with applicable laws and regulations, including intellectual property laws. The ADVISORY BOARD shall make recommendations for amendments or other changes to the Provost and the Executive Vice President, who shall confer with the President.

4.2 Disputes Under Policies and Procedures. Disputes arising from the interpretation or administration of these Patent and Tangible Research Policies and Procedures may be referred by any interested party to the IPA who will promptly notify the Chair of the ADVISORY BOARD. The ADVISORY BOARD shall provide an equitable mechanism for the review and resolution of disputes brought before it, and shall have the authority to make a judgment with respect to such disputes. The judgment of the Board may be appealed to the President, who will make a final decision for the University.

Note: Appendices begin on next page

Appendix A. Participation Agreement

Effective July 1, 1993, the Trustees of the University of Pennsylvania reaffirmed the University's Patent Policy and approved a new Policy on Tangible Research Property and, effective July 1, 1993, the President approved new procedures for administering the Patent and Tangible Research Property Policies (collectively, "Policies and Procedures"). These Policies and Procedures apply to faculty, employees and students of the University, and in particular to anyone who participates in externally sponsored programs.

Agreement

In order that the University may fulfill legal and contractual obligations to sponsors of research, and in consideration of my employment by the University, or my participation in sponsored research, or my use of funds, facilities, or other resources provided by the University, I hereby agree as follows:

1. I have read, and I understand and agree to be bound by, the terms of the Policies and Procedures as well as by the terms of any revisions or amendments adopted by the President and/or the Trustees of the University of Pennsylvania. I understand that words appearing as all capitalized letters in this Agreement are used as defined in the Policies and Procedures.

2. I agree to report to the INTELLECTUAL PROPERTY ADMINISTRATOR ("IPA") any INVENTION which is conceived or reduced to practice in the course of my employment at the University, or from work directly related to professional or employment responsibilities at the University, or from work carried out on University time, or at University expense, or with substantial use of University resources under grants or otherwise. I also agree to assign in writing to "The Trustees of the University of Pennsylvania" all right, title and interest in and to any such INVENTION.

3. I acknowledge that any TANGIBLE RESEARCH PROPERTY, whether or not patentable, which is made in the course of employment at the University or from work directly related to professional or employment responsibilities at the University, or from work carried out on University time, or at University expense, or with substantial use of University resources under grants or otherwise is the property of the University. I also agree to assign in writing to "The Trustees of the University of Pennsylvania" all right, title and interest in and to any such TANGIBLE RESEARCH PROPERTY.

4. I understand that the University incurs binding obligations to sponsors under the terms of sponsored research agreements. When I participate in sponsored research, I understand that it is my responsibility to ascertain and abide by the terms of the sponsored research agreement as it relates to me. In particular, when engaged in outside activity, such as consulting, I recognize my duty to protect the University's obligations to its research sponsors.

5. I also understand that on occasion University policy or the University's obligations to research sponsors may require that I assign my interest in copyrightable materials to the University. In such cases, I agree to assign all right, title and interest in and to such materials to "The Trustees of the University of Pennsylvania." I further understand that, in agreements with research sponsors, the University seeks to retain copyrights for its faculty.

6. I will cooperate fully with the University in the preparation and prosecution of patents, in the registration of copyrights and in the preparation and execution of all documents necessary or incidental thereto.

7. I accept the provisions for the sharing of royalties and equity in the Policies and Procedures as stated therein, and as amended from time to time.

8. I am under no obligation to any person, organization or corporation with respect to any INVENTION(S), TANGIBLE RESEARCH PROPERTY or copyrightable materials which is, or could be reasonably be construed to be, in conflict with this Agreement.

9. I agree that this Agreement is effective as of the first date of my employment, appointment or matriculation, as the case may be, and applies to any INVENTIONS, TANGIBLE RESEARCH PROPERTY, or copyrightable materials made during the time I am employed by the University, hold an appointment or continue to matriculate.

Signature: _____

Printed Name: _____

Date: _____

Appendix B. Duties and Composition of the Advisory Board to the Center for Technology Transfer

Mission: The Advisory Board was established in October, 1990 by the Provost and the Executive Vice President of the University to oversee the technology transfer activities of the University. Specifically, the Advisory Board is responsible for:

1. Determining the present and future role of the CTT, and the scope of its services to the University. This responsibility is managed by the Role Committee of the ADVISORY BOARD, which is chaired by the Vice Provost for Research and includes several faculty members. It is staffed by the INTELLECTUAL PROPERTY ADMINISTRATOR.

2. Reviewing intellectual property policies and their administration by the INTELLECTUAL PROPERTY ADMINISTRATOR and the CTT. This responsibility is managed by the Policy Committee of the ADVISORY BOARD, which is chaired by the General Counsel and has, as additional members, representatives of the faculty and administration. It is staffed by a deputy of the INTELLECTUAL PROPERTY ADMINISTRATOR.

3. Reviewing conflicts of interest that may arise in connection with the transfer of technology. This responsibility is managed by the Conflicts of Interest Committee of the ADVISORY BOARD, which is chaired by an Associate Dean for Research of the School of Medicine, and has, as additional members, representatives of the faculty and administration. It is staffed by a deputy of the INTELLECTUAL PROPERTY ADMINISTRATOR.

4. Reviewing and approving the management procedures of the CTT; monitoring the quality and fairness of the services provided by the CTT to the University; and reviewing the effectiveness of the CTT in supplementing research resources at the University. This responsibility is managed by a standing committee of the ADVISORY BOARD, which is chaired by the Executive Director, Sponsored Programs and has, as additional members, participants from the faculty and administration. It is staffed by a deputy of the INTELLECTUAL PROPERTY ADMINISTRATOR.

Composition: The Advisory Board is composed of the following members:

Chairman, ex officio, Vice Provost for Research
 Secretary, ex officio, INTELLECTUAL PROPERTY ADMINISTRATOR
 Vice Provost for Information Systems and Computing
 Associate Dean for Natural Sciences, SAS
 Associate Dean for Research, SEAS
 Associate Dean for Research, School of Medicine
 General Counsel
 Treasurer
 Executive Director, Sponsored Programs
 Associate Executive Vice President, School of Medicine
 Six faculty members from several schools, appointed by the Provost on the recommendation of the relevant Deans for a two year term.

Other Responsibilities: As defined in the intellectual property policies and procedures of the University.

Appendix C. Outside Employment or Consulting Agreements

C.1 In order to avoid conflicts between the obligations of faculty, employees and students of the University under the PATENT POLICY (including obligations to research sponsors) on the one hand, and obligations in connection with outside employment of any nature, including services as a consultant, on the other, faculty, employees and students shall comply with the following procedures before entering into any agreement with respect to any outside activity which provides for or contemplates the grant of any intellectual property rights arising out of such employment to the outside organization or individual:

C.1.1 When faculty, employees and students of the University are engaged in consulting activity outside the University, they have a duty to protect the intellectual property rights of the University and the ability of the University to fulfill its obligations to federal funding agencies and commercial and non-commercial sponsors of research.

C.1.2 Faculty, employees and students who are employees shall provide written reports on outside activity in accordance with the University Conflicts of Interest Policy and other related policies, or procedures established by their School and/or Department.

C.2 Consulting Activity with a Company Providing Sponsored Research. If a faculty member, employee or student contemplates a consulting relationship with a company that sponsors research for that individual at the University, the proposed consulting agreement shall be disclosed to the IPA along with an explanation of the nature and scope of the individual's anticipated duties. The IPA shall refer the matter to the Conflicts of Interest Committee of the ADVISORY BOARD, with copies of any correspondence to relevant deans and departmental chairs, for review. The Committee shall make recommendations to the Vice Provost for Research concerning the proposed consulting agreement. The Vice Provost for Research shall have the authority to approve or disapprove such proposed agreements.

C.3 Consulting Activity with a Company Not Providing Sponsored Research. In advance of signing any consulting agreement or contract with a company that does not sponsor research at the University conducted by the faculty member, employee or student in question, the individual contemplating outside activity shall ensure that his/her obligations under the PATENT POLICY are not compromised, and that the University's obligations to outside entities sponsoring research at the University are protected. Furthermore, in the context of academic research, it may be difficult to avoid the commingling of research activity or resources with services provided under a consulting agreement. If the faculty member, employee or student believes that his/her contemplated activities may compromise the University's obligations to research sponsors, the arrangement under consideration should be modified by the faculty member, employee or student to protect obligations of the University to its research sponsors. When negotiating consulting agreements, faculty members, employees, and students of the University must differentiate between the scope and field of their academic research and the services to be provided under the consulting agreement. Specific issues that potentially compromise the University's obligations to outside sponsoring agencies include but are not limited to:

C.3.1 Confidentiality obligations that potentially prevent the consultant from publishing research, or from reporting results of their University research to their sponsors. Additionally, confidentiality provisions may prevent the consultant from providing TANGIBLE RESEARCH PROPERTY or other deliverables to their University research sponsor or other groups as required under federal regulations.

C.3.2 Outside consulting agreements that require that any inventions made under the consulting arrangement be assigned to the company might be construed to prevent a consultant from assigning inventions to the University owned under the PATENT POLICY.

C.3.3 Consulting arrangements designed to circumvent University policies and procedures for the transmittal, review and approval of sponsored research projects, as well as intellectual property rights, are specifically prohibited.

C.3.4 Faculty and other employees may seek the assistance of the IPA in determining whether a proposed agreement conforms to these guidelines. Such assistance shall not be construed to be advice or counsel as to the faculty member's personal interests in the consulting agreement.

C.4 Liability when Consulting. Faculty members, employees or students acting as independent consultants to outside companies or organizations do so at their own risk and are not protected by the University. It may be advisable for faculty members, employees and students to retain personal legal counsel, at their own expense, for the purpose of reviewing proposed consulting agreements to protect their personal interests.

C.5 Additional Policy Information. Faculty members, employees and students are also referred to Part 5 of "Policy Information for Potential Commercial Sponsors of Research at the University of Pennsylvania," as published in *Almanac* on May 17, 1983 and reproduced in the *Research Investigators' Handbook*. In addition, faculty members, employees and students are referred to the Conflicts of Interest Policies of the University also reproduced in the *Research Investigators' Handbook*, as well as any additional procedures or guidelines of their individual Schools and Departments.

Appendix D. 1981 Procedures for Royalty Distribution

The royalty distribution procedures of the 1966 Patent Policy were revised in 1981 and were as follows (*from Section II.A.2.c of the April, 1981 Procedures*):

"Royalties or other income received by the University from patent revenues will be distributed as follows:¹

- 1) 50% of the first \$200,000 net patent revenue will be distributed to the inventor(s);
- 2) 25% of the next \$800,000 net patent revenue will be distributed to the inventor(s);
- 3) 15% of the patent revenue of the next \$400,000 will be distributed to the inventor(s);
- 4) 10% of the net patent revenue of all subsequent returns will be distributed to the inventor(s).

The University's share of returns from patents resulting from any invention or discovery from work carried out on University time will be used to support research at the University. Thirty (30%) of such revenues will be placed directly in the Research Foundation to be dealt with by the standard procedures of the Foundation Board. Priority for the remaining (70%) should be given to support research close to the origin of the work which generated the patent.

i) For net patent income less than \$100,000 per year: The 70% may be distributed by the Vice Provost for Research, after consultation with the home department Chairman, in response to research proposals of merit from the inventor(s), from the home department(s) of inventor(s) and from faculty members from the home department and school of the inventor(s), with priorities in that order.

ii) For net patent income in excess of \$100,000 per year: The 70% will be distributed by the Board of the Research Foundation. Priority will be given to research proposals from the inventor(s), from home department(s) of the inventor(s) and from faculty members of the home department and school of the inventor(s) in that order. The Board of the Foundation will, however, have the responsibility of evaluating the importance and merit of these priority proposals in the context of the broader research needs within the University.

Net patent revenues are defined as revenues from patents retained by the University after payment of expenses associated with the preparation, filing, marketing, exploitation or defense of the patent.

For patents managed by a patent management organization, only the University's share of patent revenues, after payment of significant expenses, will be considered to be net patent revenues.² All patent revenues from patents managed by a patent management organization will be subject to the terms of the agreement between the University and the patent management organization.

Distribution of patent revenues from patents arising from sponsored research will be subject to the terms of the grant or contract, as negotiated between the agency and the University.³

¹ This scale applies only to patent revenues accruing on patent filed after April 28, 1980.

² Questions regarding division of the foregoing revenues among inventors where there are patents to multiple inventors, patents to different or overlapping inventors, and multiple patents to a single inventor, and all other questions of interpretation of these guidelines, will be referred to the Vice Provost for Research.

³ If the PMO(s) with which the University deals and the University are not interested in assuming the costs of the patent as outlined above, the inventor may apply individually and at his/her own expense. Under these circumstances the inventor shall grant to the University a royalty-free, irrevocable, non-exclusive license to make or use the invention for its own purposes.

Appendix E. Rules Governing Equity Transactions

E.1 Conflicts of Interest in License Agreements Involving Equity.

License agreements involving EQUITY must be structured to protect the University from liability and to avoid conflicts of interest. The IPA shall inform the Vice Provost for Research, and the relevant Deans and Chairpersons, the General Counsel, the Office of Research Administration and the involved INVENTOR(S) in writing of the proposed terms of the agreement and of any potential conflicts of interest. The INVENTOR(S) shall disclose to the IPA any existing or proposed consulting agreement between the INVENTOR(S) and the prospective licensee or any other consulting agreements with other entities that have potential for conflicts of interest. The University and the relevant Deans may impose limitations on the proposed license agreement, associated sponsored research agreement, consulting agreement between the INVENTOR and the licensee, or other agreements. In addition, the University, Deans or Chairpersons may create an oversight mechanism for the relevant INVENTORS.

E.1.1 Board Participation and Fiduciary Roles. In general, the University will not accept a position on the board of directors of the licensee, but may accept and exercise observer rights on such boards. Exceptions to this policy require the approval of the Executive Vice President of the University in consultation with the IPA and the General Counsel. As a matter of policy, INVENTORS may not serve on the board of directors of the licensee, or in any other fiduciary capacity during the time their University research is sponsored by the licensee. In general, INVENTORS may accept a seat on scientific advisory boards providing that membership on such a board does not create a fiduciary responsibility to the licensee and its shareholders.

E.1.2 Minority Ownership. The INVENTORS (and members of their families) together may not be majority shareholders of the venture at the time that the license agreement is negotiated and thereafter.

E.1.3. Licensee Representation. In license negotiations with the University, the prospective licensee must be represented by a party other than an INVENTOR or a member of the INVENTOR'S family.

E.2 Licenses in Consideration of Equity. The principal purpose of licensing by the University is to promote the development of technologies to serve the public interest. If after a diligent effort to identify prospective licensees, the IPA determines that the public interest is best served by a license in consideration of EQUITY, the IPA may negotiate such a license on behalf of the University, following consultation with the Vice Provost for Research, the relevant Deans and Chairs, the Treasurer and the Conflicts of Interest Committee of the ADVISORY BOARD. The IPA should be satisfied that the licensee can demonstrate management and technical capability, and that it has the financial resources necessary to meet its developmental objectives

and its obligations to the University. The IPA may accept EQUITY in the licensee for the University in lieu of license or other fees, provided that the EQUITY represents a fair valuation for the technology. The IPA shall include in each license measures of performance that must be met in order to maintain the license granted by the University.

E.3 Disclosure of Equity. The University will require the prospective licensee to disclose all EQUITY offered to the University (and other institutions or individuals which may co-own an INVENTION with the University) in consideration for the license agreement. In addition, the prospective licensee will be required to disclose in writing to the IPA and the Treasurer the specific terms and conditions associated with such EQUITY, and the anticipated capital structure of the venture. Furthermore, the prospective licensee and the INVENTORS must disclose to the IPA and the Treasurer in writing the EQUITY to be issued to INVENTORS for their role as founders, consultants, or otherwise.

E.4 Direct Personal Ownership of Equity. The University generally requires that the EQUITY provided to INVENTORS from the EQUITY POOL must be issued directly to the INVENTORS at the time the EQUITY is issued. The INVENTORS will be responsible for retaining their own business advisors, legal counsel and tax counsel. INVENTORS are responsible for all financial, tax and legal consequences related to the EQUITY they receive. The Conflicts of Interest Committee of the ADVISORY BOARD reserves the right to require that any EQUITY issued to INVENTORS by the licensee be held in a "blind trust" for a defined period of time. An INVENTOR who receives EQUITY from the EQUITY POOL or from the licensee outside of the EQUITY POOL will not be entitled to any share of the University's NET EQUITY INCOME. Under rare circumstances, the University may agree to accept all shares of the EQUITY POOL including INVENTORS shares, providing that all INVENTORS and other institutions release the University in writing from any liability associated with the management and ownership of the shares. In such cases, the Investment Board of the University will control the stock. Any income received by the University from shares held on behalf of INVENTORS will be distributed among INVENTORS in accordance with Section 2.3.4 of the Patent and Tangible Research Policies and Procedures.

E.5 Modifications of Rules. These Rules Governing Equity Transactions and Equity Distributions in License Agreements are subject to the review and approval of the President. These Rules will be reviewed on a regular basis by the ADVISORY BOARD which shall report recommendations for amendments to the President as needed. Changes may be made by the President without prior notice.

E.6 Management of Equity. Any EQUITY received by the University under a license agreement will be held by the Office of the Treasurer until such time that the University's Investment Board decides to liquidate such EQUITY.