

AN IN-DEPTH REVIEW OF THE
VANDERBILT UNIVERSITY PATENT POLICY
AND RECOMMENDATIONS FOR ITS REPLACEMENT BY
**A POLICY ON TECHNOLOGY AND LITERARY
AND ARTISTIC WORKS**

A report
prepared by
The Patent Review Committee
Vanderbilt University

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PREAMBLE:

Sections I through IX and Appendices A & B of this Report provide background, history, and an explanation of the new proposed Policy on Technology and Literary and Artistic Works. The general text of these sections is not policy, and will not be included in the Faculty Manual, but rather will serve as explanation and legislative history to the Policy. Actual Policy language pertaining to each issue discussed generally in this background portion of the Report is inserted in *italics* type in the section of the Report dealing with that particular issue.

The complete text of the Proposed Policy on Technology and Literary and Artistic Works is printed in full as Appendix C at the end of this Report, beginning on page 58. It is this full text that will be the authoritative language of the new policy and will be printed in the Faculty Manual.

VI. DISTRIBUTION OF ROYALTY INCOME

The present distribution of royalty income at Vanderbilt and several other schools is given in Table I. While there are notable similarities and differences among the schools, it is clear that each school uses the distribution of income from research property to encourage faculty to generate this type of income, and that the benefits of this income are shared across various levels of university organization.

Table I. The Present Income Distribution Plans at Vanderbilt and Five Other Universities

	Inventor/ Creator	Inventor's Laboratory	Inventor's Department	Inventor's School	Technology Promotion	Technology Research Fund
<u>Vanderbilt University</u>						
First fifty thousand	40%	Note A.	30%	20%	10%	0%
Next fifty thousand	40%		25%	25%	10%	0%
Next 400, 000	40%		10%	40%	10%	0%
Over 500,000	40%		5%	25%	5%	25%
<u>Duke University</u>						
Any income derived	50%	10%	10%	20%*	10%	
<u>Harvard University</u>						
If inventor files non-medical patent	All Income					
Medical patent or if Harvard files patent						
First 50,000	35%	15%	15%	(35-X)%	X%	
Over 50,000	25%	20%	20%	(35-X)%	X%	
<u>Stanford University</u>						
If inventor files patent	All Income					
If Stanford files patent	33%	(33-Y)%	Y%	(34-Z)%	Z%	
<u>The Johns Hopkins University</u>						
First 30,000 per year	1/3	4/9	2/27	4/27		
Second 30,000 per year	1/3	1/3	1/9	2/9		
Above 60,000 per year	1/3	2/9	4/27	8/27		
<u>Tulane University</u>						
Non-Medical	50%		10%	40%		
Medical			15%	35%		

Note A. If inventors wish to contribute a portion of their royalty income to the University for the support of the inventors' research program, the University will match such a contribution dollar for dollar from the department's share. Such contributions and matching funds shall be credited to a restricted account controlled by the inventor for that research, subject to University policy applicable to such accounts.

X, Y, Z portions to be determined on a case-by-case basis.

*To the University

In order to understand the potential fiscal impact of technology transfer on a university, it is useful to review the success enjoyed by Stanford University. In 1969-70, Stanford was issued only three patents, three licenses were signed, and the \$55,000 of royalty income were received. By 1979-80, these numbers had risen to 13 patents, 13 licenses, and \$393,000 of income. By 1989-90, the numbers of patents and licenses had risen to 46 and 40, respectively. The 1989-90 royalty income of \$14,100,000 reflected to a large extent the effect of the few patents on recombinant DNA techniques, which are jointly held with the University of California at Berkeley. Thus license income can be affected significantly by only a few patents. Seldom are schools so successful. For comparison, between 1972 and 1990, Vanderbilt was issued a total of 36 patents but only earned \$400,000 in royalties during this 18 year period. With a more rigorous effort toward commercialization, in FY 91 and FY 92, Vanderbilt earned over \$100,000 and \$400,000 respectively. Vanderbilt was also issued 6 and 5 patents during these two years. While total royalties are now approaching a cumulative total of \$1,000,000, several technologies presently being transferred are expected to contribute substantially in the future. The only way to ensure income from technology transfer is to create at the outset the incentives, including significant assistance with technology transfer, that would encourage faculty to create commercially-valuable property. As technology transfer activities grow, the portion of royalties returned to the university will both provide the support and resources necessary to continue the efforts, and substantially reward the inventors. A viable technology transfer program should also encourage additional research funds from industry.

A. Department versus School Distribution. One inconsistency in the present distribution scheme arises from the fact that in some units of Vanderbilt, the inventor's school plays a significant role in the financial support of faculty salaries and facilities while the department has little or no funds of its own for research support. In other schools, the bulk of the funds for salary and equipment must be raised by the investigator. Thus the present distribution plan effectively reimburses some departments for funds expended by their school. Similar differences exist in the recovery of indirect costs from externally sponsored research.

A more equitable procedure might be to allow each school to determine how the income is to be distributed. In this case, the distribution plan could become

Table II. An Alternative Income Distribution Plan for Vanderbilt Schools That Fund Faculty Salaries

	First \$50,000	Next \$50,000	Next \$400,000	Over \$500,000
Inventor	40%	40%	40%	40%
Inventor's School	50%*	50%*	50%*	30%*
Technology Promotion Fund	10%	10%	10%	5%
Technology Research Fund	0%	0%	0%	25%

* At the option of each school, a designated portion of these funds may be distributed to the inventor's department.

Upon consultation with faculty, chairs, and administrators within the School of Medicine, it became apparent that the funding practices in the School of Medicine, particularly in regard to the use of external research funds to support faculty, were sufficiently different from the practices in the non-medical units of the University to justify having two different income distribution schemes. **The Committee initially recommended that the income distribution for the Medical School be given by Table I, and the income distribution for the non-medical units of the University be given by Table II. This distribution plan is summarized in Table III.**

Table III. Income Distribution Plan Considered Initially

	First \$50,000	Next \$50,000	Next \$400,000	Over \$500,000
Inventor or Creator	40%	40%	40%	40%
For nonmedical: Inventor's or Creator's School	50%*	50%*	50%*	30%*
For medical: Inventor's or Creator's School	20%*	25%*	40%*	25%*
Inventor's or Creator's Department	30%	25%	10%	5%
Technology Promotion Fund	10%	10%	10%	5%
Technology Research Fund	0%	0%	0%	25%

* At the option of each School, a designated portion of these funds may be distributed to the Inventor's department.

The Committee felt that the existing practice of having the University match whatever funds an inventor returns to his or her University research program from the inventor's share of the royalty should be continued. ←

The Committee also recommended that flexible royalties should be considered. While the present 40/60 split between the Inventor(s) and the University seemed appropriate for patents, a somewhat larger return to innovators and creators may be in order as regards to non-patentable technology, innovations, ideas or methods for which the University's role in the creation or commercialization of the work was less substantial. Under exceptional circumstances, the patent royalty split might be adjusted subject to negotiations between the University and the inventors or creators. The royalties on intellectual creations and innovations not covered by issued patents would fall within a yet-to-be-decided range, with the Technology Review Committee providing arbitration in the event that an agreement could not be reached between the inventors or creators and the Office of the General Counsel. Authors, artists, and other creators of literary and artistic works in the historical and ordinary sense, would continue to receive all royalties, subject constraints regarding commercial exploitation and to other provisions of this policy that treat some copyrightable works, such as computer programs, on an equal basis with technological innovations.

The Committee then circulated draft versions of both this document and the proposed policy to the deans of schools with significant technology transfer activities, and to other administrators and interested faculty members. Appointed representatives of the Patent Committee met with the deans of the College of Arts and Science, the Schools of Engineering and Law, the Owen School of Management, the Peabody College of Teachers, the Blair School of Music, and the Medical School. The issues of direct support to the inventor's/creator's individual research program and to his or her department were raised again, as was the need for the policy to reflect the differences in the sources of funding of faculty salaries. In the College of Arts and Science, less than 1% of the salary budget for regular, full time academic faculty is charged to external grants and contracts, with the balance paid by College funds. In the Medical School, approximately 75% of faculty salaries are derived from external funds. The Engineering School more closely approximates the College than the Medical School.

Of particular concern was the realization that, based upon recent rulings, the Internal Revenue Service would probably not allow an inventor to claim as a tax deduction a donation of personal royalty income to Vanderbilt specifically in support of his or her research, since the IRS viewed that inventor/creator would still maintain control over the funds unless they were given to the University as an unrestricted gift. One way to avoid paying income tax on the amount donated in support of specific research might be for the inventor/creator to make an irrevocable transfer of the royalty income to the University. The Committee felt that either payment of taxes on the amount donated or the irrevocable assignment of income would significantly reduce the incentive for an inventor/creator to make a donation with the intention that the University would match it from its share of the royalty income, but in certain circumstances this option might be utilized.

As a result of this reappraisal, an entirely new distribution scheme, indicated in Table IV, was eventually agreed upon by the Committee and the various administrators.

TABLE IV. Proposed Income Distribution Plan

	Inventor/ Creator	Inventor's Laboratory	Inventor's Department	Inventor's School	Technology Promotion	Technology Research Fund
<u>Non-Medical</u>						
First 100,000 per year	50%	10%*	0%	30%	10%	0%
Above 100,000 per year	40%	10%*	10%	25%	5%	10%
<u>Medical Center</u>						
First 100,000 per year	50%	0%	20%	20%	10%	0%
Above 100,000 per year	40%	0%	25%	20%	5%	10%

*For as long as the inventor remains at Vanderbilt. If the inventor leaves Vanderbilt, the inventor's school share is increased by 10%.

For multiple co-inventors/creators, the shares will be apportioned consistent with this schedule.

From the perspective of the Medical School administration, the specific allocation of income between the several categories reflects several factors. First, the investigator should be identified with a substantial portion of the income. The investigator's laboratory might or might not be the focus of need. Further, the department is responsible for the facilities and for other matters related to the faculty member/investigator and that laboratory. It will be possible for the income derived from a particular patent/invention to be used and allocated by the department for the laboratory of the investigator, if that investigator, for instance, might allocate a portion of his own income as a matching amount for departmental contribution. This provides the investigator laboratory an opportunity for support, but not assurance. It is strongly felt that the department is the agent and organization of the institution responsible for the facilities and for people holding titles and positions within the department. Accordingly, it is the department that should be the point of reference in relationship to income derived rather than the laboratory as a predetermined recipient, although the laboratory may be a recipient through allocation based on best judgment by department and/or investigator. Similarly, the school is identified with the income in as much as the school provides for the departments. The promotional fund is meant to identify with expenses and pay those expenses which are essential, or important, to the promotion of the invention. The research fund identified only with income beyond \$100,000 is meant to be a general fund for the promotion of research. It needs to be identified at the institutional level with the institution's leadership insofar as its allocation is concerned.

The proposed distribution scheme gives the inventor/creator a larger personal share of the net income from technology transfer than does either the present Policy or alternatives considered, and as such is consistent with the other schools surveyed. The funds to the laboratory in the non-medical portions of the university should serve to stimulate further entrepreneurial activity, without the challenge to the Internal Revenue Service that would have occurred had any inventor/creator chosen to exercise the matching option allowed by the present Policy. The existing practice of having the University match funds an inventor/creator returns to his or her research program may be done on a case by case basis, if requested by the University and approved by the Dean or, in the Medical Center, by the Vice Chancellor for Health Affairs.

The new policy is not cumulative, since the income thresholds for adjusting the percentages are on an annual basis, and as a result all components of the distribution system will benefit more uniformly over time.

Thus the Committee believes that the proposed income distribution plan will maintain a significant incentive to the inventor/creator to proceed with technology transfer, and, at the same time, represents a distribution of income that will be fair not only to the inventor/creator, but also to the University Community as a whole.

B. Noncash Income. Sometimes it is in the best interest of the University and the inventor to license technology in return for an equity interest in the company licensing the technology or other non-cash forms of return. The distribution of these other forms of income necessarily may differ from the distribution timing and formula used for ordinary royalty income. However, the principles of the formula will be retained and the distribution of the stock or other return will follow as closely as possible the normal distribution formula. In each case, the details will be negotiated between and among the University, the inventor, and the licensor.

C. The Technology Promotion and Technology Research Funds. The present Patent Promotion Fund typically contains only \$20,000 to \$30,000, which has accumulated over several years. While no invention at Vanderbilt has yet to provide sufficient income to result in any contribution to the University Research Fund, it would be imprudent not to structure the new policy to cover the eventuality of a single, phenomenally successful patent. The Technology Promotion Fund is viewed as a source of funds to promote specific technologies. Expenditures might cover such items as the hiring of external consultants to foster the licensing of a particular invention, or the expenses of a faculty member who is willing to go to a patent trade fair to promote his or her invention. Because only limited funds are at present available for technology promotion, these funds have yet to be used to promote individual research efforts. **Expenditures from the Technology Promotion Fund would be made at the discretion of the University with periodic review by the Technology Review Committee.**

In recognition that some universities, such as Stanford and the University of California at Berkeley, have received substantial income from a single patent, the present policy provides that 25% of patent income above \$500,000 is to be placed in the University Research Fund. To avoid confusion of this fund with funds administered by the University Research Council, we recommend that the University Research Fund be renamed the Technology Research Fund. At present, no money has been deposited to this fund; in the event financial resources become available in the future, the Technology Review Committee would be responsible for proposing an equitable, peer-review mechanism for the disbursement of these funds. Because it is difficult to anticipate the income likely to accrue to either the Technology Promotion Fund or the Technology Research Fund, the Technology Review Committee would be empowered to recommend transfers of funds from one to the other, based upon the income to and demands upon each.

D. University Expenses. Net income is defined as the balance of income remaining after recovery of total University expenses and any special project advances. At this time, the University does not deduct the expenses of the Technology Transfer Office or the Office of General Counsel from licensing income, thus the expenses deducted are those outside expenses directly related to that technology.

PROPOSED POLICY LANGUAGE ADOPTED IS AS FOLLOWS:

The general principle sought by this Policy is to direct income from income-producing discoveries toward Inventors or Creators, assure the transfer and development of those discoveries for the public benefit, and provide for the funding of future research by faculty of Vanderbilt University.

For purposes of this Policy, "income" is defined as royalties or return received from the transfer or licensing of Technology. Net income is defined as the balance of income remaining after the recovery of (1) total University expenses directly related to generating and securing income from a specific Technology, and (2) any special project advance by the School or other organizational unit of the University. These University expenses will consist of expenses such as legal fees; application, issuance, and maintenance fees for patents; legal fees and other direct expenses concerning licensing or transferring that Technology; and direct marketing and patent promotion costs for that Technology. Special project advances from the School or othe

organizational unit of the University will be detailed in writing at the time the advance is made. Only net income will be allocated to the Inventors and Schools. Upon request, the Office of Technology Transfer will provide an Inventor or Creator with a listing of expenses incurred to date on his or her Technology, and such expenses shall be reported quarterly to the Vice Chancellor for Health Affairs.

A percentage of the net income (see Schedule below) derived from the transfer, licensing, or commercial exploitation of Technology shall be placed in a Technology Promotion Fund that will be used for promotion of specific Technologies.

A percentage of the net income (see Schedule below) derived from the transfer or licensing of Technology that is sufficiently profitable shall be placed in a Technology Research Fund with the Technology Review Committee responsible for proposing an equitable mechanism of peer review for disbursement of these funds.

Net income from the transfer or licensing of Technology will be allocated according to the percentages in the following Schedule. The intent of this Schedule is that small discoveries will primarily aid Inventors and Creators and their research efforts, while large inventions will aid the School proportionally more.

SCHEDULE
Net Income

	Inventor/ Creator	Inventor's Laboratory	Inventor's Department	Inventor's School	Technology Promotion	Technology Research Fund
<u>Non-Medical</u>						
First 100,000 per year	50%	10%*	0%	30%	10%	0%
Above 100,000 per year	40%	10%*	10%	25%	5%	10%
<u>Medical Center</u>						
First 100,000 per year	50%	0%	20%	20%	10%	0%
Above 100,000 per year	40%	0%	25%	20%	5%	10%

*For as long as the inventor remains at Vanderbilt. If the inventor leaves Vanderbilt, the inventor's school share is increased by 10%.

For multiple co-inventors/creators, the shares will be apportioned consistent with this schedule.

The Inventor's or Creator's share shall be paid directly to the Inventor. Funds designated for Departments and Schools are to be used primarily for funding research by the faculty.

In exceptional circumstances with the approval of the appropriate Dean and the Provost or the Vice Chancellor for Health Affairs, the royalty split for Technology may be adjusted subject to negotiations between the University and the Inventor and Creator.

QUESTION: If a faculty member is required to pay 50% of royalties earned to Vanderbilt, who bears the faculty member's tax liability on that amount?

This question reflects a misunderstanding of royalties paid to the University on Vanderbilt owned technology. No situation exists in which a faculty member pays Vanderbilt--under the existing or the proposed policy--unless that were a term negotiated between the parties in an unusual case. Thus, no tax liability exists for a faculty member except for income received and retained by that faculty member. The policy determines ownership in the technology, and normally Vanderbilt receives income only on the technology that the University owns. In these cases in which the University owns the technology, the income comes to Vanderbilt, and Vanderbilt pays a share to the faculty member, not vice versa. If the faculty member owns the technology no obligation exists to share royalty or other income with the University; the faculty member would retain all income as well as all tax liability for that income.

VII. THE ROLE OF THE PATENT COMMITTEE

The current patent policy provides for a Patent Review Committee that will treat only inventions and discoveries subject to statutory protection. The present policy gives the Patent Committee three primary functions: to determine whether the University has an interest in an invention, to determine whether a disclosure is one for which a patent should be filed, and to advise on policy. Its decision-making authority covers:

Determining whether the University has an interest in inventions, and in particular whether inventions or discoveries were made with University facilities or with funds administered by the University,

Determining whether the discovery is one for which a patent should be filed, and

Approving allocations from the Patent Promotion Fund.

Its advisory role includes:

Advising on negotiations and agreements with inventors concerning the development of inventions and discoveries and proprietary developments;

Advising on overall patent policy and related matters;

Advising on copyright and trademark policy; and

Advising on the ownership and distribution of the University's Tangible Research Property which is produced in the course of research which uses University facilities or funds administered by the University.

As we discussed in detail earlier, **the Patent Committee concluded that the University community has a potential financial interest in much new technology, particularly certain computer software and biogenic material that remains of commercial value even if it is**