UNIVERSITY OF
NORTHERN COLORADO

Office of Research
Office of Sponsored Programs

Innovation Development and Enterprise Advancement (IDEA) Policies and Procedures

January 5, 2018

Introduction
A white paper describing IDEA was prepared in 2013 by Laura Connolly, then acting Director of IDEA. The IDEA office has functioned since then to support UNC faculty, staff, and students in developing and commercializing innovations. This document incorporates the background sections from that document, and updates the organizational structure and procedures for IDEA.

1. IDEA: Innovation Development and Enterprise Advancement

What is IDEA?

Innovation Development and Enterprise Advancement (IDEA) is a broad conceptualization of the process more traditionally known as "technology transfer." Technology transfer is "the process of transferring scientific findings from one organization to another for the purpose of further development and commercialization" (Association of University Technology Managers, 2013).

The phrase "technology transfer" focuses primarily on innovation in the Science, Technology, Engineering, and Mathematics (STEM) disciplines. Recently, many universities have become active in protecting and transferring intellectual property in nonscientific areas as well. The more inclusive phrase "Innovation Development" is used to capture the broad range of innovative ideas that can be protected and developed at UNC. Examples of successfully developed innovations from UNC and other institutions are provided in **Appendix 1**.

After an innovation has been sufficiently developed and protected, transfer to another organization occurs. This often involves licensing the rights to further develop and market an innovation to an industry partner. In some cases, it may lead to the creation of a new startup company. In either case, Enterprise Advancement (EA) is the process of transferring the innovation into the marketplace.

How does the IDEA process work?

According to the Association of University Technology Managers (2013):

"The process of technology transfer typically includes:

- Identifying new technologies
- Protecting technologies through patents and copyrights

- Forming development and commercialization strategies such as marketing and licensing to existing private sector companies or creating new startup companies based on the technology."

The role of IDEA is to help UNC innovators (faculty, staff, and students) decide if their idea can be protected and marketed, to help them through the process, and to connect them with the resources they need for IDEA success. The **IP Flowchart in Appendix 2** illustrates the process. Details about how UNC will operationalize these steps are provided in Section 3 (Policies and Procedures).

Why should UNC continue IDEA?

The primary reason to embrace IDEA is that it fits exactly in the nexus of the three elements of the UNC Strategic Framework. It directly ties Research, Scholarship, and Creative Works to Community Building and Academic Instruction. Specifically, it will facilitate the development of innovations that fit the following aspects of our Mission and Identity as laid out in the Planning Summary (University of Northern Colorado, 2012):

- Make a positive, lasting impact on society...and often provide immediate and tangible benefits for our community, and
- Provide students with opportunities to...explore the connections among disciplines, to work together with faculty as scholars, and to use what they learn in the broader community.

In addition, IDEA will provide other benefits to innovators, the university, and the broader community.

- *Benefits to innovators include*: enhancement of the intrinsic joy of discovery; satisfaction from contributing to the public good; recognition for discoveries; development of relationships that enrich scholarly opportunities; and licensing income.
- *Benefits to UNC include*: attraction and retention of talented faculty; attraction of corporate research support; recognition and prestige; increased alumni support; better community/university relationships; and assurance of compliance with federal regulations.
- *Benefits to the broader community include*: access to products and services that improve quality of life; regional economic development; and better community/university relationships.

Finally, IDEA will provide consistency and transparency to an activity that already exists at UNC. The University currently has a policy on intellectual property (Board Policy Manual, Section 2-3-411), but members of the university community are often unaware of the process for making their innovations known to the institution; for evaluating the potential for successful protection and commercialization of innovations; or for negotiating licensing opportunities.

2. Structure

Purpose of IDEA

The purpose of IDEA is to provide a systematic way to identify, evaluate, protect, and develop the innovations of UNC's faculty, staff and students. University technology transfer offices tend to be organized around one of three models (Batalia, 2006):

- ***Service***. In this model, the primary goal is to disseminate knowledge and to provide a service to faculty, students, staff, and others conducting research at the university. This includes traditional aspects of scholarly activity such as publication of scholarly

works and graduation of students, as well as community outreach. It also provides legal and technical assistance to researchers as they navigate the process of protecting, licensing, and commercializing their innovations.

- ***Revenue***. Here, the emphasis is on profitability. Offices using the revenue model invest in a wide variety of intellectual property development activities: prototype development, proof- of-concept studies, business-plan development, and, of course, patent [and copyright] applications and licensing.
- ***Economic Development***. The focus in offices using this model is to improve the local or state economy. There is a concerted effort to identify innovations that can be leveraged into new start-up firms or that would be of value to local companies. Several authors (e.g., Crowell 2006, Wheaton, 2006) have argued that economic development has recently risen (or nearly risen) to the status of a "fourth mission" of universities – added to teaching, research, and service.

UNC adopts the ***Service Model*** for IP and innovation/technology transfer. There are several reasons for this approach. First and foremost, the Service model fits most directly with the mission of the university. UNC's Vision Statement asserts that we are committed to the promotion of "effective teaching, lifelong learning, the advancement of knowledge, research, and a commitment to service" (University of Northern Colorado, 2013. Vision Statement).

Organizing IDEA around the Service model keeps the advancement of knowledge at the forefront. It also ensures the purpose of developing intellectual property is to enhance teaching and learning at the university.

Mission

IDEA's mission is to provide support for the protection and commercialization of innovations created by faculty, students, and staff at UNC.

Organizational Structure

Intellectual Property (IP) Board: UNC's IP, tech transfer, and commercialization activities are overseen by a board comprised of the Chief Academic Officer (CAO)/Senior VP and Provost (chair), the Senior VP and Chief Financial Officer (CFO), the VP and Chief Legal Counsel, and the Chief Research Officer (CRO)/AVP for Research (AVPR). The responsibilities of the IP Board are to (a) review and recommend changes to IP policies to the Board of Trustees, (b) review and approve changes to IP procedures, and (c) to determine the interest of the University in innovations/inventions created by UNC personnel.

IDEA: The IDEA office is housed organizationally and physically in the Office of Research, is managed by an administrator, and reports to the AVPR. Administrative support is provided by the Budget and Contracting Coordinator, 0.3 FTE. See **organizational chart, Appendix 3**.

3. Policies and Procedures

Policy

UNC's policy on intellectual property is delineated in Board Policy Manual, Section 2-3-411. Sections 2-3-411(1) and 2-3-411(2) describe policies related to works subject to copyright. Section 2-3-411(3) describes policies related to inventions subject to patent. All IP and IDEA procedures will adhere to Board Policy.

Unless expressly noted in the *Procedures* section below, the CAO delegates responsibilities assigned in Board Policy to the CAO to the IP Board, the AVPR, and/or the IDEA Office.

Procedures

The procedures for supporting UNC innovators and inventors through the IP lifecycle require coordination of multiple offices and administrators. The AVPR, in coordination with the IP Board, is responsible for IP and innovation/tech transfer at UNC. The IDEA administrator within the Office of Research is the lead administrator on all IP/tech transfer/ innovation activities, and is individually responsible for many steps in the IP lifecycle. For activities that involve multiple offices, the IDEA administrator is the lead.

The typical lifecycle for IP at UNC, illustrated in the flowchart in **Appendix 2**, has three general phases: (a) Identifying new technologies; (b) Protecting technologies through patents and copyrights; and (c) Forming development and commercialization strategies such as marketing and licensing to existing private sector companies or creating new startup companies based on the technology.

General procedures and responsibilities for the three phases of IP follow:

a. Identifying new technologies

i. Educational outreach to the university community to educate faculty, students, staff, and administrators (IDEA Administrator).

ii. Assessment of new innovations, including potential commercial value, patentability, market analysis (IDEA Administrator).

iii. Review, evaluate, and foster discoveries made by university faculty, staff or students that may not be patentable, or may require additional development. Coordinate with the Office of Research to assist innovators in seeking funding to develop innovations/inventions (IDEA Administrator).

iv. Advise OSP staff regarding intellectual property in sponsored research proposals and agreements (IDEA Administrator, OSP staff).

b. Protecting innovations/technologies through patents and copyrights

i. Determine the interest of the University in any innovation created by UNC personnel, as currently required by Board Policy Manual (BPM), Section 2-3-411(3)(b) (IP Board).

Factors to be considered for entering into negotiations with the inventor shall include, but not be limited to:

- Potential for protection (patent, copyright, or trademark);
- Benefit to the public;
- Potential market for the innovation; and
- Cost to protect and/or develop.

ii. Negotiate with the inventor to provide an equitable sharing of cost and proceeds related to securing a patent, copyright, or trademark; and developing the invention, if the University goes forward with the protection process (IDEA Administrator).

iii. Development and implementation of intellectual property protections strategies including patent protection, copyright protection, trademark protection and know-how (IDEA Administrator).

c. Commercialization strategies & management

i. Develop commercialization strategies of emerging innovations (IDEA Administrator).

ii. Disseminate new and useful knowledge resulting from the intellectual property protection, as currently set out in BPM, Section 2-3-411(3) (IDEA Administrator).

iii. Negotiate licensing agreements with industry to develop practical applications of protected innovations or create or foster separate corporate entities to develop and market protected innovations (IDEA Administrator, IP Board).

iv. Manage UNC's portfolio of U.S. and international patents and patent applications (IDEA Administrator).

v. Receive and distribute royalties (IDEA Administrator, General Accounting).

vi. Ensure that patent related obligations to the inventor, research sponsor, government and the university are met (IDEA Administrator, OSP staff).

vii. Negotiate, monitor and enforce agreements including confidentiality agreements, material transfer agreements, inter-institutional agreements, option agreements and license agreements (IDEA Administrator, OSP staff).

4. Evaluation

To evaluate the effectiveness of IDEA, the following metrics and benchmarks will be tracked:

- Number of innovation disclosures
- Number of innovation agreements
- Number of copyrights registered
- Number of published patents
- New research funding related to innovations/inventions
- Gross Revenue related to innovations/inventions
- Net Revenue (after patent expenditures) related to innovations/inventions
- New Industry-sponsored research collaborations

Other metrics may be identified. Realistic short- and long-term goals will be set for each metric chosen and these will be used on a regular basis to evaluate and assess how well IDEA is achieving its mission.

Another important source of information for assessment will be input from the IP Board as well as faculty, students, and staff to ensure IDEA serves the needs of the university's innovators and our external stakeholders.

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Appendix 1: Examples of Successfully Developed Non-STEM Innovations

There are tens of thousands of examples of successful innovation development coming out of the STEM disciplines, and UNC researchers working in these areas are most definitely encouraged to protect and develop their innovations. However, researchers in non-STEM areas are often less aware of the potential for protecting and commercializing their ideas. To stimulate ideas for non-STEM researchers, here are just a few examples of successful non-STEM Innovation Development from around the world. (Numerous additional examples from both STEM and non-STEM areas can be found at www.betterworldproject.org.)

Apprentice: A mobile application for supervising student internships by tracking paperwork, recordings, and student progress; disseminating readings; sharing resources; planning site visits; communicating with site supervisors; and generating reports required for accreditation requirements and program goals: University of Northern Colorado (Department of Applied Psychology & Counselor Education).[1]

Natural Language Processing (NLP): Software, dictionaries & know how for computers to understand the meaning of naturally occurring speech and text; University of Colorado (Department of Linguistics; Department of Computer Science; Center for Computational Language & Education Research).[2]

EdTrex: Curriculum customization software that enables science and math educators to customize their instruction with curated open educational resources; University of Colorado (Institute of Cognitive Science; Department of Computer Science).[3]

Food Friends® Inc: A successful startup company consisting of research based educational programs that encourage preschoolers to try new foods through dynamic and hands-on learning; Colorado State University (Department of Food Science and Human Nutrition).[4]

Get Movin' with Mighty Moves: An 18-week classroom program designed to get children moving and help develop gross motor skills. Colorado State University (Department of Food Science and Human Nutrition).[5]

Learner Web: Helps low-income and less-educated adults learn to use the internet and prepare for GED, citizenship, and other educational goals; Portland State University (Department of Applied Linguistics).[6]

DriveScribe: A mobile app that blocks calls, text and email access and acts as a personal driving coach, providing feedback to drivers who brake suddenly, run stop signs, or exceed the speed limit, e.g. DriveScribe also alerts drivers to upcoming dangers such as a sharp curve in the road up ahead. Information about driving behavior is stored online, so parents

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[1] Source: http://apprenticesoftware.com

[2] Source: https://www.colorado.edu/linguistics/research/computational-linguistics

[3] Source: https://www.colorado.edu/cs/2014/11/03/company-further-develop-cs-professors-e-hub-software-platform

[4] Source: http://www.foodfriends.org

[5] Source: http://www.foodfriends.org/food-friends-programs/get-movin-mighty-moves/

[6] Source: http://www.learnerweb.org/infosite/

can log in to a website to review their teen's progress; University of Minnesota (Intelligent Transportation Systems Institute).[7]

Triple P - the Positive Parenting Program: A program to help parents manage their children's behavior through techniques such as promoting positive relationships; encouraging desirable behavior; and teaching children new skills. Research shows that families who use Triple P have better parent-child relationships and fewer incidents of child maltreatment than families who don't. Triple P is licensed to organizations and practitioners around the world; University of Queensland [Australia], (Parenting and Family Support Centre).[8]

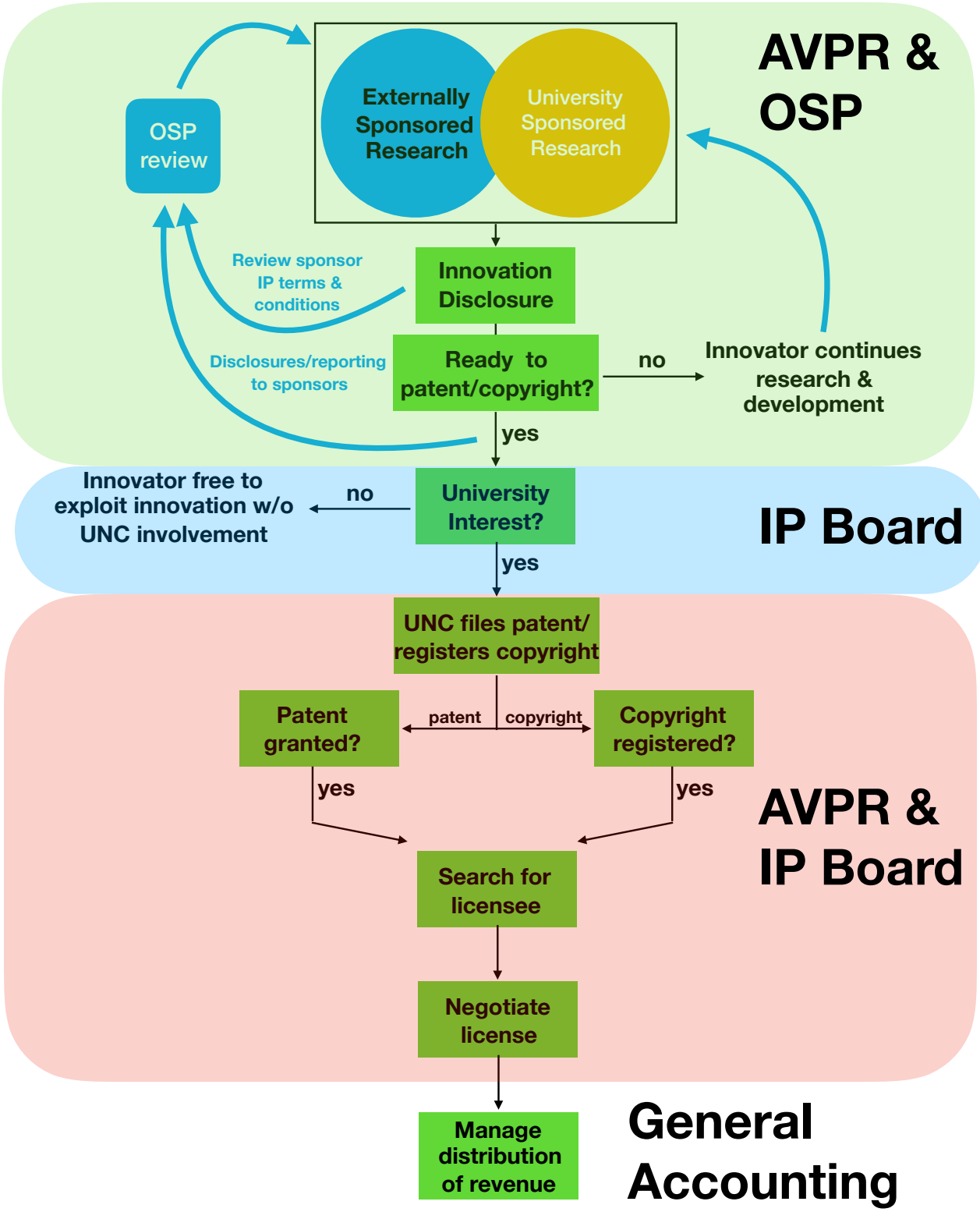
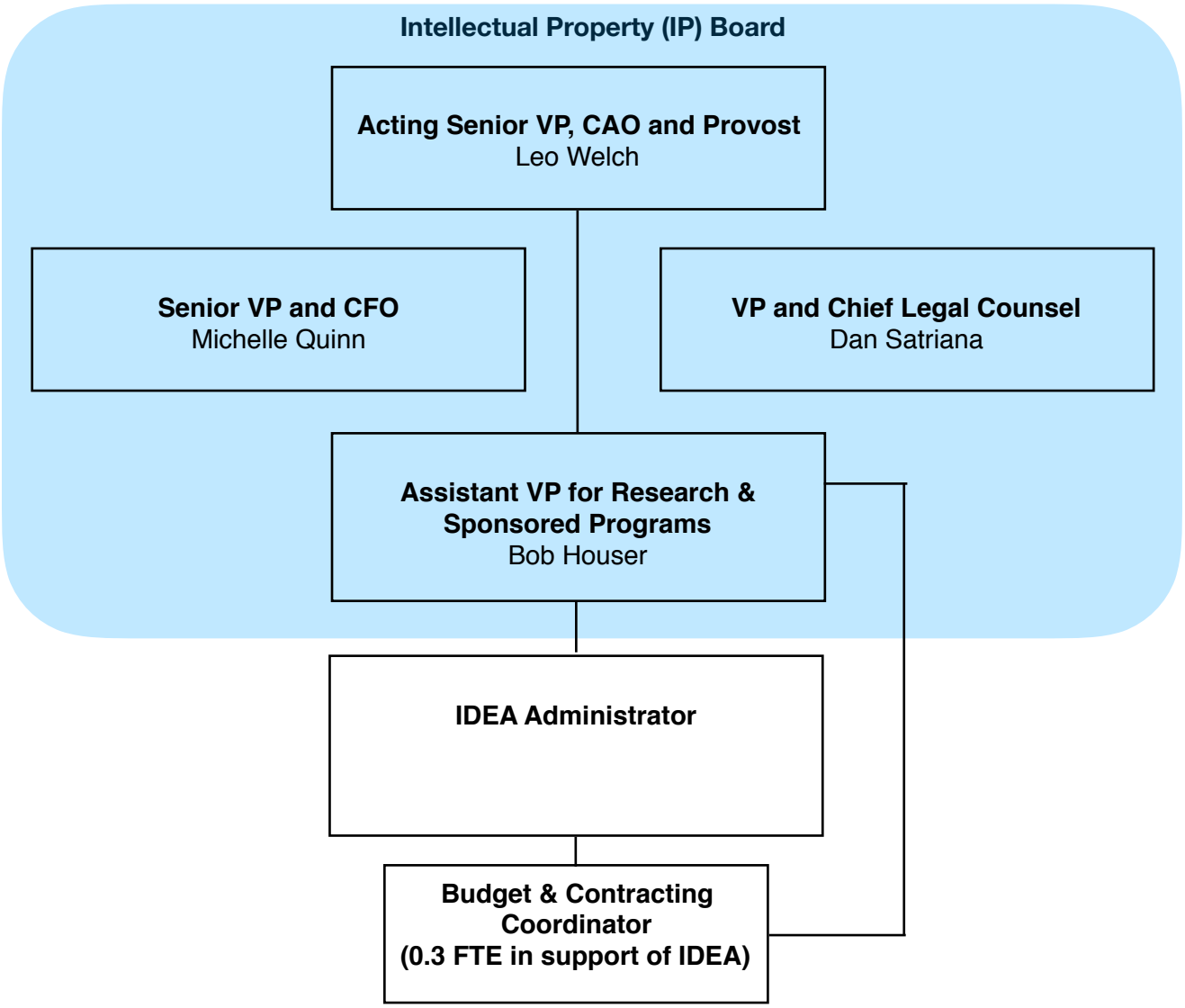
iTraceTx: A suite of Web-based and mobile applications that uses radio frequency identification (RFID) technology to identify and track individual blood units as they move from the donor to the patient's bedside; University of Wisconsin-Madison (RFID Research Lab, as part of a consortium with several healthcare organizations and commercial partners).[9]

[7] Source: https://cse.umn.edu/news-release/engineering-researchers-develop-technology-for-startup-company-that-helps-teens-improve-driving-skills/

[8] Source: https://www.psy.uq.edu.au/research/centresandgroups.html?role=530

[9] Source: http://www.betterworldproject.org/search-stories/?pid=4

Appendix 2: UNC IP Flowchart



Appendix 3: UNC IDEA Organizational Chart