



**TABLE OF CONTENTS
FOR
ACADEMIC AFFAIRS COMMITTEE**

Committee Meeting: 8/19/2015

Board Meeting: 8/20/2015
Austin, Texas

Ernest Aliseda, Chairman
Alex M. Cranberg
R. Steven Hicks
Brenda Pejovich
Sara Martinez Tucker

	Committee Meeting	Board Meeting	Page
Convene	9:30 a.m. <i>Chairman Aliseda</i>		
1. U. T. System Board of Regents: Discussion and appropriate action regarding Consent Agenda items, if any, referred for Committee consideration	9:30 a.m. Action	Action	217
2. U. T. Austin: Request to a) approve the honorific naming of B. M. Whitaker Field in honor of the late Professor Charles Alan Wright as the Charles Alan Wright Fields, and b) officially recognize the Whitaker Fields and Tennis Complex as the Berry M. Whitaker Sports Complex	9:31 a.m. Action <i>President Fenves</i>	Action	218
3. U. T. Brownsville: Discussion and appropriate action regarding (a) proposed extension of Educational Partnership Agreement with Texas Southmost College (TSC) through August 31, 2016, and (b) delegation of authority to the TSC Board of Trustees related to governance and operations of TSC as a unit of U. T. Brownsville for purposes of compliance with accreditation standards of the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) for Academic Year 2015-2016	9:35 a.m. Action <i>Dr. Leslie</i>	Action	220
4. U. T. Arlington: Approval to establish a Doctor of Philosophy degree program in Kinesiology	9:45 a.m. Action <i>President Karbhari</i> <i>Dr. Leslie</i>	Action	223
5. U. T. System: Quarterly report on academic matters of interest to the U. T. System, including a discussion on 3D printing	9:55 a.m. Report/Discussion <i>Dr. Leslie</i> <i>President Natalicio</i> <i>and Dr. Ryan Wicker,</i> <i>U. T. El Paso</i>	Not on Agenda	226
Adjourn	10:30 a.m.		

1. **U. T. System Board of Regents: Discussion and appropriate action regarding Consent Agenda items, if any, referred for Committee consideration**

RECOMMENDATION

The proposed Consent Agenda is located at the back of the book.

2. **U. T. Austin: Request to a) approve the honorific naming of B. M. Whitaker Field in honor of the late Professor Charles Alan Wright as the Charles Alan Wright Fields, and b) officially recognize the Whitaker Fields and Tennis Complex as the Berry M. Whitaker Sports Complex**

RECOMMENDATION

The Chancellor concurs in the recommendation of the Executive Vice Chancellor for Academic Affairs, the Vice Chancellor for External Relations, and President Fenves that U. T. System Board of Regents

- a. approve the honorific naming of B. M. Whitaker Field as the Charles Alan Wright Fields to honor the late Professor Charles Alan Wright, and
- b. officially recognize the complex housing the fields and tennis facilities as the Berry M. Whitaker Sports Complex.

This honorific naming is to recognize an esteemed U. T. Austin faculty member.

BACKGROUND INFORMATION

Professor Charles Alan Wright, who died in July 2000, was invited to be both player and coach of the Legal Eagles intramural football team, which was organized in 1955. After five years of participating in that capacity, he restricted his involvement to coach, a position he maintained for 45 years.

Professor Wright was a beloved U. T. Austin faculty member for over 45 years and held the Charles Alan Wright Chair in Federal Courts. He attended Wesleyan University, graduating in 1947 with a Bachelor of Arts. In addition, he received a Bachelor of Law degree from Yale University in 1949.

Mr. Wright was an authority on constitutional law and the federal courts, representing President Richard M. Nixon in the Watergate scandal. He argued 13 cases before the Supreme Court, winning 10 of the cases outright and half his point in another. He was well known as the senior author of a 55-volume treatise, *Federal Practice and Procedure*, which at the time of his death had grown to 57 large volumes.

B. M. Whitaker Field was honorifically named for Berry M. Whitaker on June 17, 1983, in recognition of his outstanding service to the cause of recreational sports at U. T. Austin. Mr. Whitaker joined U. T. Austin in 1916 to organize one of the nation's first university intramural programs. He served as the head football coach from 1920 to 1922 and the basketball head coach for the 1920 season. After 1922 he retired from coaching and returned to directing the intramural sports program until his retirement in 1960.

Under both Professor Wright's and Mr. Whitaker's leadership, the intramural sports and Division of Recreational Sports at U. T. Austin experienced incredible growth. Expanding the Whitaker Field name to include Professor Wright would ensure two highly respected individuals who left a powerful impression on the sports program at U. T. Austin would be honored for years to come.

The B. M. Whitaker Field complex, located at 51st and Guadalupe Streets, consists of multipurpose fields that can accommodate up to 18 football/soccer fields or 12 softball diamonds, as well as an archery range. Activities offered at Whitaker Fields include archery, football, lacrosse, rugby, soccer, and softball. The complex, which was last renovated in 1981, functions as the primary venue for all outdoor field and court sports. It currently accommodates several hundred thousand hours of participation each year in the Recreation Sports' programs including Intramurals, Informal Recreation, and Sport Clubs. In addition to recreation, the complex also accommodates a variety of academic classes offered through the Department of Kinesiology and Health Education, along with an expanding list of camps and special events sponsored by U. T. Austin departments and student organizations.

The Board of Regents previously approved renovation of the Whitaker Fields and Tennis Complex. The renovation includes restoring existing grass fields and adding synthetic fields; replacing the irrigation, plumbing, electrical, lighting, and security systems; improving the drainage and grading systems; and demolishing and replacing the support facilities. Additional amenities will include new perimeter fencing, protective sports netting, landscaping, tennis court repairs, signage, scoreboards, bleacher seating, and a new public address system.

The total project cost for the renovations is \$23 million, initially to be raised through gifts. An amendment to the project is slated for the August 2015 Board of Regents' meeting to revise the funding to \$16 million in Revenue Financing System Bond Proceeds, \$5.8 million in Auxiliary Enterprises Balances, and \$1.2 million in gifts (see Facilities Planning and Construction Committee [Item 14](#)). In February 2014, U. T. Austin embarked on an effort to raise funds for the renovation. Approximately \$1.2 million in gifts and pledges have been fully collected or committed to this project. The project is slated for completion in October 2016.

This naming proposal is consistent with the Regents' *Rules and Regulations*, Rule 80307, relating to the honorific naming of facilities to recognize a distinguished alumnus of U. T. Austin who has left an unforgettable impact on the university.

3. **U. T. Brownsville: Discussion and appropriate action regarding (a) proposed extension of Educational Partnership Agreement with Texas Southmost College (TSC) through August 31, 2016, and (b) delegation of authority to the TSC Board of Trustees related to governance and operations of TSC as a unit of U. T. Brownsville for purposes of compliance with accreditation standards of the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC) for Academic Year 2015-2016**

RECOMMENDATION

The Chancellor concurs in the recommendation of the Executive Vice Chancellor for Academic Affairs, the Executive Vice Chancellor for Business Affairs, and the Vice Chancellor and General Counsel that the Board of Regents:

- a. approve extension of the Educational Partnership Agreement with Texas Southmost College (TSC) until the earlier of August 31, 2016, or TSC achieving independent accreditation from the Southern Association of Colleges and Schools Commission on Colleges (SACSCOC); and
- b. delegate authority to the TSC Board of Trustees to take action related to the governance and operations of TSC as a unit of U. T. Brownsville for purposes of compliance with accreditation standards of SACSCOC. Specifically, the Board of Regents would delegate to the TSC Board of Trustees authority to take the following actions if conducted in a manner consistent with all appropriate laws and regulations:
 - Governance authority: authority to hire personnel and approve overall policy for the College; and
 - Operations authority: authority to manage the budget and approve expenditures.

BACKGROUND INFORMATION

In 1991, U. T. Brownsville and TSC entered into a contractual arrangement with the primary goal of enhancing educational opportunities and offering students a seamless educational process from community college to a four-year university degree.

The Partnership was established through an educational partnership agreement, which ultimately required a series of interagency agreements covering matters such as personnel, academic programs, real property, and selection of a president by the U. T. System Board of Regents. Since inception of the Partnership, both U. T. Brownsville and TSC have experienced significant increases in student enrollment, course offerings, degrees offered, real property, and budget including sponsored research grants. The Partnership has evolved and over the past two decades has increased in complexity exceeding the scope of the 1991 Partnership Agreement.

Shortly after the 81st Legislative Session, leadership from U. T. System, U. T. Brownsville, and TSC met and agreed to devote full attention to enhancing the Partnership Agreement. Both partners quickly agreed that the 1991 Agreement was outdated, hindering the ability to enhance excellence into the future. The leadership agreed to work together to seek enhanced funding through all sources including the Texas Legislature. Eighteen months were devoted by representatives of the U. T. System, U. T. Brownsville, and TSC to discuss and draft a new partnership agreement that offered an expanded vision for higher education in Brownsville, advancing excellence and protecting the mission of the community college and the four-year university.

However, on October 21, 2010, the TSC Board of Trustees rejected the draft of the new Partnership Agreement and voted unanimously to authorize legal counsel to negotiate a new agreement and to explore a model that would separate TSC from U. T. Brownsville. The Board of Regents responded by approving the following motion made by Regent Stillwell on November 11, 2010:

I move that the U. T. System Board of Regents find that the current educational partnership between the Board of Regents on behalf of U. T. Brownsville and the Board of Trustees of the Texas Southmost College District on behalf of Texas Southmost College can no longer be sustained and that the notice of termination of the Educational Partnership Agreement be provided immediately. Under the terms of the Agreement, the termination is effective no later than August 31, 2015; however, the parties may work to achieve an earlier effective date.

I further move that the Board direct that written notice of this action be provided immediately to the Board of Trustees and that the Board ask Chancellor Cigarroa to plan for the orderly wind down of the partnership in a manner designed to provide uninterrupted continuation of the studies and academic career objectives of the partnership's students while shortening the period of transition.

This motion is premised upon the unwavering principle that the U. T. System Board of Regents is committed to the continuation of educational access and opportunity for our students and believes that, while the partnership structure has had many successes, this current partnership between U. T. Brownsville and Texas Southmost College is not the best model to achieve excellence in the future.

Senate Bill 24 of the 83rd Legislature, which created U. T. Rio Grande Valley, expressly required the continuation of the Partnership Agreement through August 31, 2015, to the extent necessary to ensure the accreditation of TSC. Even though the statutory obligation to continue in partnership expires August 31, 2015, the statute evidences a clear legislative interest in ensuring the continued ability of TSC to provide educational opportunity even as U. T. Rio Grande Valley becomes operational.

Over the last three years, U. T. Brownsville and U. T. System administrators have worked with TSC President Lily F. Tercero to assist with the preparation to seek independent accreditation. TSC submitted its accreditation application to SACSCOC in October 2014. The SACSCOC leadership reviewed the application in December 2014 and scheduled a team visit, a precursor for action by the SACSCOC Board, for August 2015. TSC is allowed five months after the visit to respond to any recommendations made by the visiting team. The SACSCOC Board will then provide a final hearing for TSC's independent accreditation. SACSCOC has advised that, until

independent accreditation is granted to TSC, the U. T. Brownsville/TSC Partnership must be maintained; that is, TSC must remain under the oversight of the U. T. System Board of Regents concerning governance and operations and a U. T. Brownsville administrative infrastructure must be maintained. Thus, to ensure TSC's continued ability to provide educational opportunities and TSC students' continued eligibility for federal financial aid, it is prudent to extend the Partnership Agreement through August 31, 2016, with the caveat that it will terminate immediately after independent accreditation is achieved by TSC.

Following approval of the proposed action by the Board of Regents, U. T. Brownsville and TSC will continue to be jointly accredited by SACSCOC for at least one more academic year, 2015-2016.

4. **U. T. Arlington: Approval to establish a Doctor of Philosophy degree program in Kinesiology**

RECOMMENDATION

The Chancellor concurs in the recommendation of the Executive Vice Chancellor for Academic Affairs and President Karbhari that authorization, pursuant to the Regents' *Rules and Regulations*, Rule 40307, related to academic program approval standards, be granted to

- a. establish a Doctor of Philosophy degree program in Kinesiology at U. T. Arlington; and
- b. submit the proposal to the Texas Higher Education Coordinating Board for review and appropriate action.

BACKGROUND INFORMATION

Program Description

The proposed Ph.D. degree program in Kinesiology at U. T. Arlington is designed to build upon the Department of Kinesiology's and the Center for Healthy Living and Longevity's existing research, education, and community outreach initiatives in health and disease, as well as the College of Nursing and Health Innovation's and the University's strategic theme of health and the human condition. The program is intended to prepare researchers who generate new knowledge and apply existing knowledge to the prevention, assessment, and treatment of motor difficulties, chronic diseases, and musculoskeletal injuries.

Students entering the program with a bachelor's or master's degree in kinesiology or a related field will complete the doctorate by completing a minimum of 69 semester credit hours (SCH) (bachelor's) or 42 SCH (master's). Three areas of specialization will be offered: (1) movement and rehabilitation sciences, (2) applied physiology, and (3) physical education.

Interdisciplinary coursework will be a foundational element of the curriculum as the proposed program is designed to underscore an interdisciplinary and interprofessional approach to the prevention, assessment, treatment of motor difficulties, chronic diseases, and musculoskeletal injuries across the lifespan.

Need and Student Demand

Kinesiology has emerged in recent years as the undergraduate degree of choice for many students seeking careers in a variety of allied health/medical fields, as well as in more traditional areas, such as fitness, health promotion, physical education, recreation, and sports. Enrollment patterns at a number of U. T. System institutions confirm the heightened interest in kinesiology as an undergraduate major, which suggests a growing pool of individuals who might want to pursue a Ph.D. in Kinesiology.

Currently, there is a high demand for faculty in the kinesiology fields. Between August and September 2014, the HigherEdJobs website had between 150 and 200 job announcements that require a Ph.D. in Kinesiology. Further, the U.S. Department of Labor Bureau of Labor Statistics indicates there will be substantial growth in the demand for teachers with health-related specializations at all levels of post-secondary education. Depending upon the type of employment, most of the estimates of growth in this field range from 25% to 39% from 2012 to 2022. There is also evidence that the demand for kinesiology faculty and health care research scientists with a Ph.D. degree will grow over the next decade. According to the Bureau of Labor Statistics, employment of medical scientists is projected to grow 13% between 2012 and 2022. This increase in demand is influenced by an increased reliance on pharmaceuticals, greater spending on medical care, a larger and aging population, and greater relevance of the understanding of physiological mechanisms associated with the processes of health and disease.

U. T. Arlington graduates will be trained for research positions and faculty jobs and will receive unique foundational and research experiences that directly target these health needs.

A recent survey of Ph.D. degree program heads revealed a clear mismatch between supply and demand, with a greater number of competitive Ph.D. applicants than existing programs can admit. For example, the Texas Woman's University Department of Kinesiology Ph.D. degree program has declined approximately 14 eligible Ph.D. applicants per year from 2007-2013 (i.e., 96 potential candidates over a seven-year period). Similarly, the University of Houston Department of Health and Human Performance Ph.D. degree program declined an average of 13 eligible applicants per year from 2008-2012 (i.e., a total of 64 potential candidates were not accepted). In addition, U. T. Austin's Ph.D. degree programs in the Department of Kinesiology and Health Education accept only about 10 of the 30 prospective students who apply each year. The absolute number of competitive Ph.D. applicants in the State of Texas would certainly include many more qualified individuals, which concludes there is a need for an additional Ph.D. degree program in Kinesiology. Existing programs in the State of Texas are at full capacity and are unable to accommodate a large number of qualified applicants.

Students currently enrolled in U. T. Arlington's M.S. in Exercise Science were surveyed on their interest in the proposed Ph.D. program. Interest was high, with 84% of students reporting they would definitely enroll in such a program at U. T. Arlington.

Program Quality

The hiring of new faculty will not be necessary as U. T. Arlington has 11 core faculty contributing to the Ph.D. program, three of whom were recruited in the 2014-2015 academic year. The core faculty are actively engaged in research and regularly publish the results of their research in peer-reviewed journals. Over the last five years, they have been successful in garnering external research grants totaling more than \$3.1 million. Four supporting faculty will complement the core faculty efforts.

The curriculum is designed to prepare students as independent researchers and provide a balance of coursework and hands-on research experiences that will contribute to their academic and professional growth and success. The Department of Kinesiology will partner with other academic units on the U. T. Arlington campus that will contribute to an interdisciplinary and interprofessional approach to remedy the health issues faced by sedentary and vulnerable populations. Part of the required courses taken by all students in the program will include a

minimum of two specified three-hour graduate-level nursing courses and two additional three-hour, graduate-level courses outside of the Department of Kinesiology in psychology, education, biomedical engineering, or other areas where existing multidisciplinary collaborative research initiatives involving kinesiology exist. These required courses will ensure a true, interdisciplinary educational experience for students. The faculty expertise, interprofessional and philosophical goals, and the proposed curriculum will allow U. T. Arlington to offer a unique program in the study of health and the human condition across the lifespan.

Revenue and Expenses

Projected Enrollment	5-Year Total
Number of Full-Time Student Equivalents (FTSE) Used for Formula Funding Calculation	69
Total Number of Students	86

Expenses	5-Year Total
<i>Faculty</i>	
Salaries	\$1,048,027
Benefits	\$314,408
<i>Graduate Students</i>	
TA Salaries	\$375,000
TA Benefits	\$75,000
<i>Staff & Administration</i>	
Graduate Coordinator Salary	\$22,000
Administrative Staff Salaries	\$11,250
Staff Benefits	\$1,250
Total Expenses	\$1,846,935

Revenue	5-Year Total
<i>From Student Enrollment</i>	
Formula Funding	\$239,824
Tuition and Fees	\$588,080
<i>From Institutional Funds</i>	
Reallocation of Faculty Salaries/Benefits	\$1,362,435
Reallocation of Graduate Assistantships	\$450,000
Reallocation of Coordinator & Staff	\$34,500
Total Revenue	\$2,674,839

Coordinating Board Criteria

The proposed program meets all applicable Coordinating Board criteria for new doctoral degree programs.

5. **U. T. System: Quarterly report on academic matters of interest to the U. T. System, including a discussion on 3D printing**

REPORT

Executive Vice Chancellor Leslie will report on academic matters of interest to the U. T. System, and then President Natalicio will introduce Ryan Wicker, Ph.D., P.E., Professor and Director and Founder of the W.M. Keck Center for 3D Innovation, to discuss 3D printing at U. T. El Paso. Dr. Wicker's presentation is set forth on the following pages.

Additive Manufacturing / 3D Printing

A Nexus of Opportunity

Ryan Wicker, Ph.D.

MacIntosh Murchison Professor, Mechanical Engineering, and
Director W.M. Keck Center for 3D Innovation

U. T. System Board of Regents' Meeting
Academic Affairs Committee
August 2015





The Current Excitement in AM



- Media hype – increased public awareness



Print Me a Stradivarius, The Economist, Feb. 2011

Retrieved from <http://www.economist.com/node/18114327>

- Expiring technology patents – DIY/technology democratization



Retrieved from <http://www.makerbot.com/2014-consumer-electronics-show-ces/>

- Increasing national and global interest



President Obama’s Initiative: National Additive Manufacturing Innovation Institute (now America Makes) began in August 2012

Retrieved from <https://americamakes.us/>



W.M. Keck Center for 3D Innovation



- Founded in 2000 with one AM / 3D Printing machine
- Now a 13,000 square foot facility with over 50 AM machines (polymers, metals, ceramics, composites, electronics, biomedical)
- Research and Development projects with over 100 industrial and 10 federal agency clients
- Currently supporting more than 60 student researchers
- Significant and expanding patent portfolio: 9 U.S. patents, 2 foreign patents (Europe and Asia), 11 pending applications...and growing
- Named the first America Makes Satellite Office in April 2015
- Everything we do uses additive manufacturing technologies

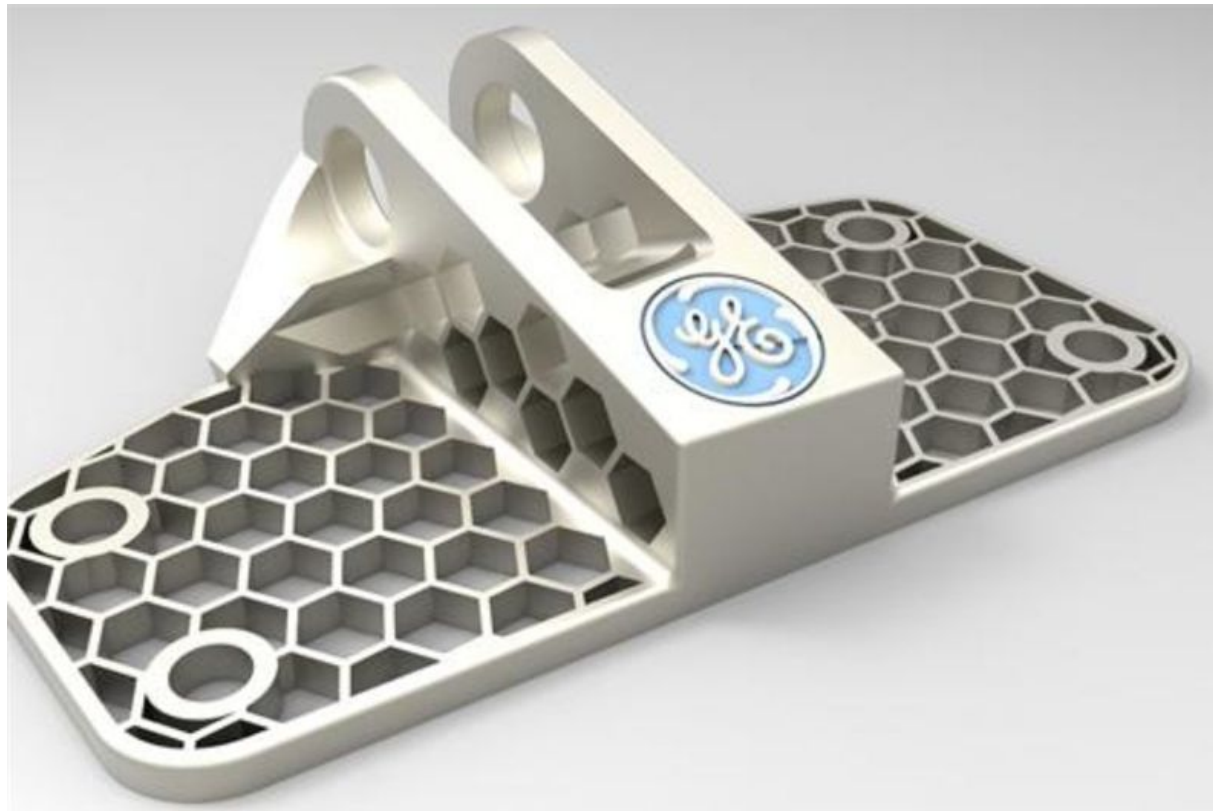


Keck Center Overview Video





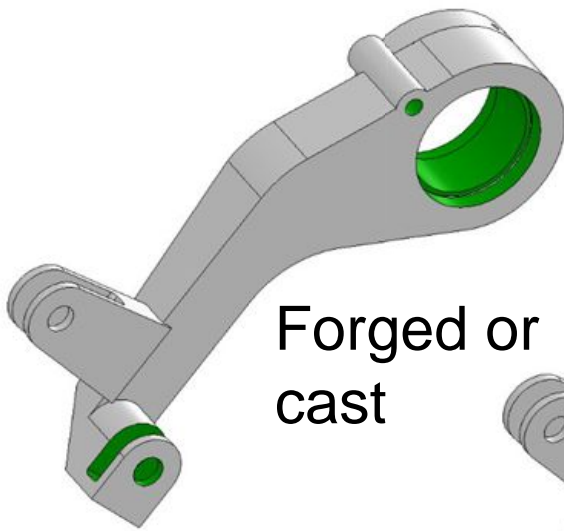
Additive Manufacturing's Unique Advantage



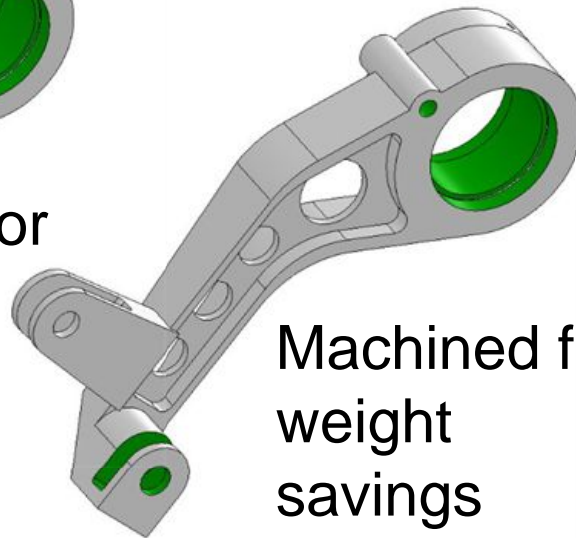
Retrieved from http://www.americas.gecapital.com/GECA_Document/Additive_Manufacturing_Fall_2013.pdf



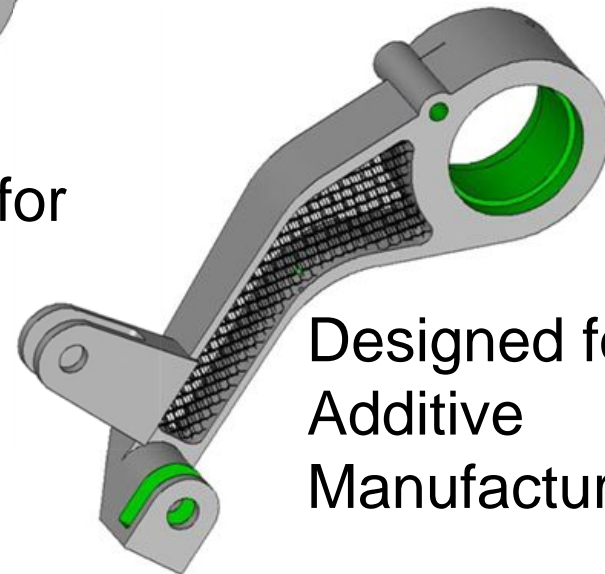
Design for Additive Manufacturing



Forged or
cast



Machined for
weight
savings



Designed for
Additive
Manufacturing



AM's Future Advantage: Printing Multifunctionality

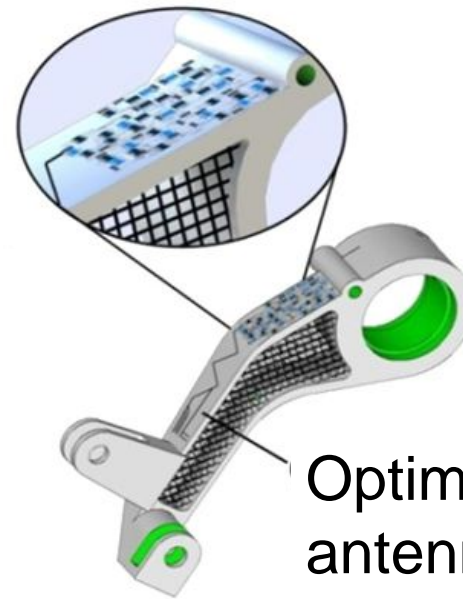
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Forged or
cast



Machined for
weight savings

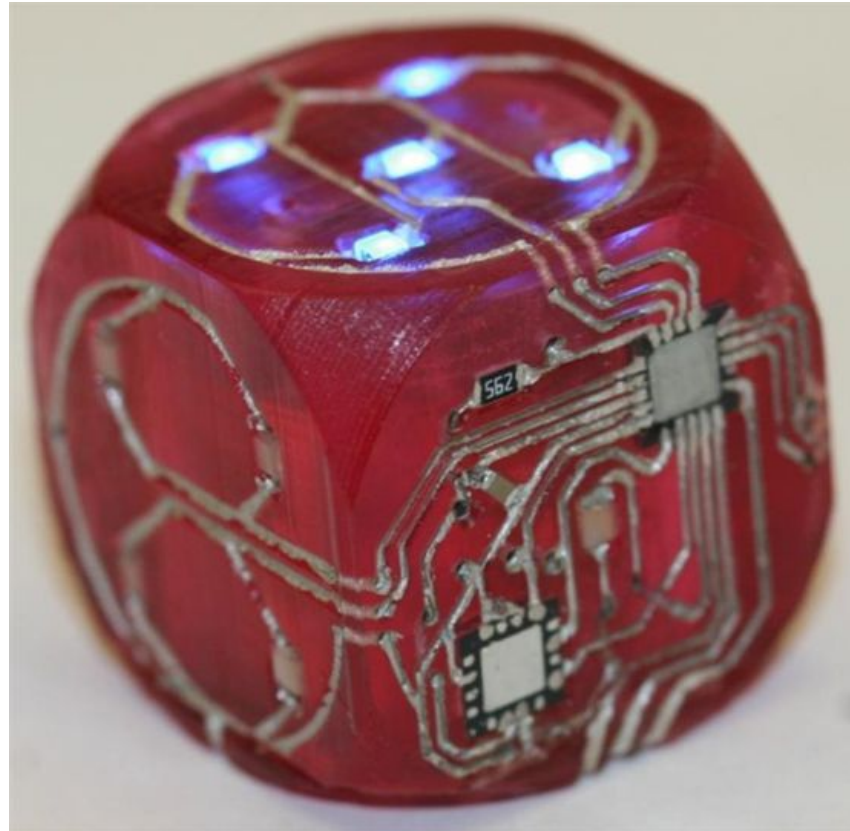


Optimized
antenna

Fabricated with optimized
3D structuring of materials

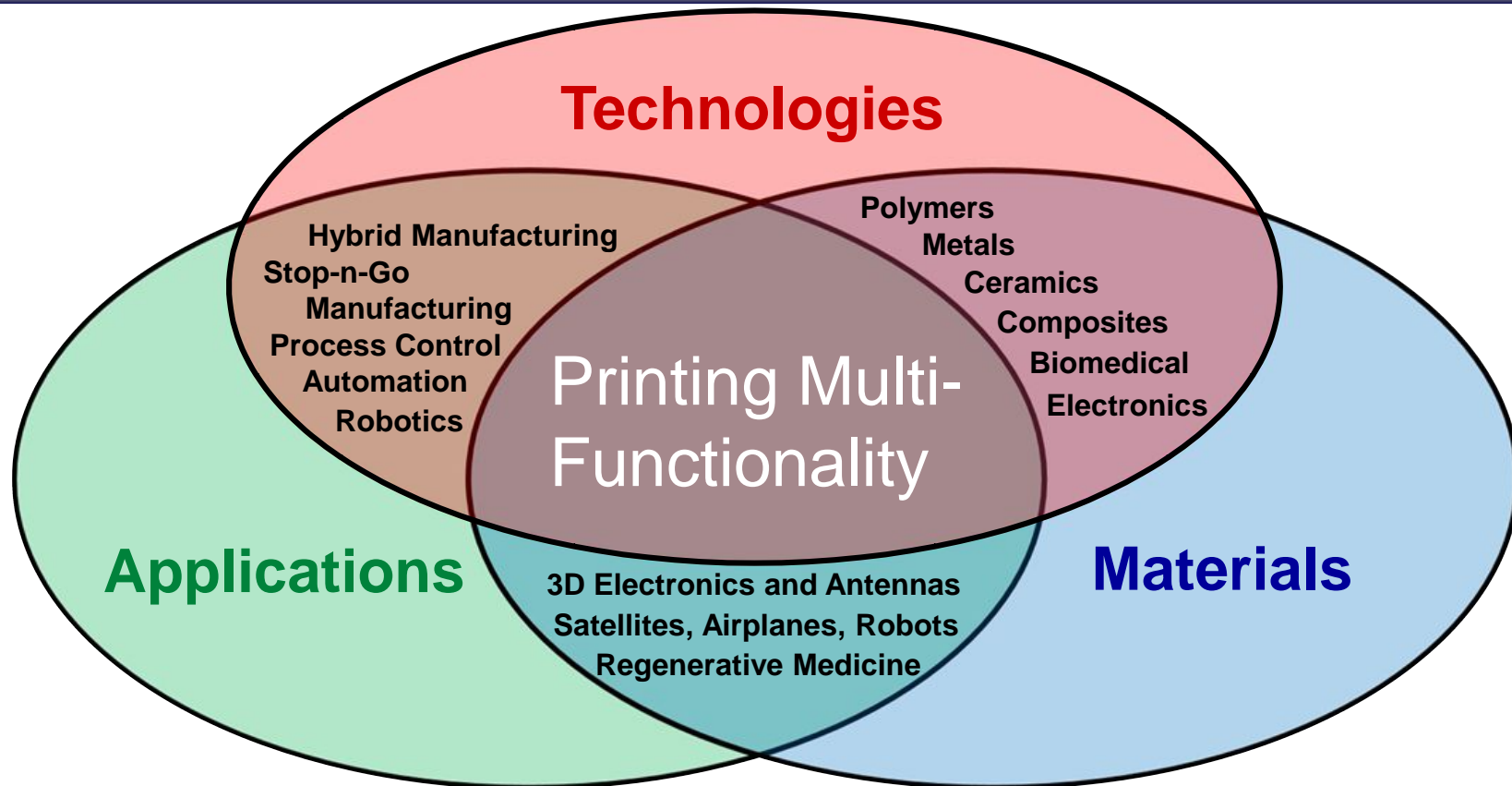


Printing Multifunctionality: How Close Are We?





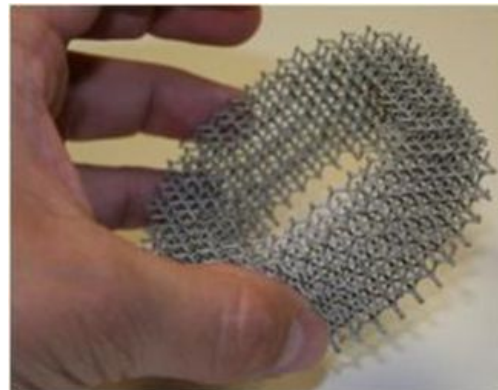
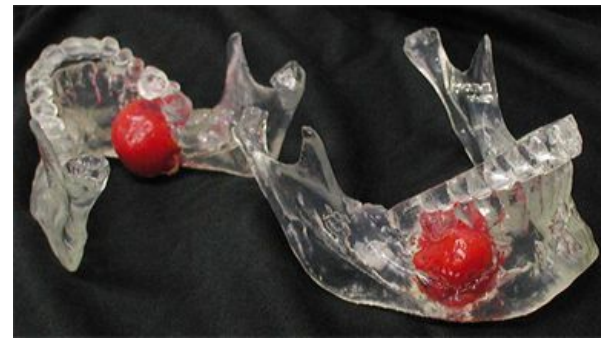
Opportunities – Intersection of Interdisciplinary Advancements





Printing Multifunctionality - Demonstrations

- Biomedical and Health care
- 3D Electronics
- Mechanical Structures
- Functional Applications





W.M. Keck Center for 3D Innovation Research Group



Driving the Additive Manufacturing Revolution



Visit www.keck.utep.edu for more information