



# Telmo Santos

Technology Transfer Unit of the University of Aveiro

<http://www.ua.pt/uatec>

## Bilateral Meetings

- 09-00 am - 12.00 am
- 14.00 pm - 17.00 pm

## Description

UATEC - Technology Transfer Unit of the University of Aveiro was created in 2006. Its mission is to support the University in its pursuit to become a centre of excellence in the creation, transmission and transfer of knowledge, at a national level, via the protection and management of intellectual property rights, the promotion and valuing of its technologies in the market, the encouragement of the University/Enterprise liaison and the promotion of entrepreneurship.

## SERVICES

### Protection and management of intellectual property rights

- Inventions (patents and utility models);
- Distinctive Trade signs (Trademarks, logos, etc.);
- Design (Drawings or models);
- Papers (Copyright).

### Support to the creation of technology-based enterprises

- Training for entrepreneurs (CEBT and LABE);
- Mobility of Entrepreneurs (Erasmus for young entrepreneurs);
- Ideas' Competitions;
- Funding (Proof of Concept, Business Angels and Venture Capital).

### Support to the promotion of innovation in business

- Enterprise needs' assessment and matching of it with the researchers' competences;
- Support to the preparation of proposals for consultancy services, research contracts and R&D projects in Consortia;
- Identifying the most adequate funding sources for each different project;
- Intellectual Property Valuation:
  - Passive Marketing (technological surveillance, commercial and patentability potential, technological profile and brokerage events);
  - Active Marketing (market research, licensing plans, identify and interact with potential licensees);
  - Negotiation and licensing (technological and industrialization absorption capacity /commercialization of intellectual property);
  - Post licensing management.

Organization Type

University/Research Center

Project idea

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## Cooperation Offered

### 1. Other

## Offer

## Transmission system without chain

A group of researchers from a Portuguese University developed a transmission system for bicycles without using transmission power or driven shaft to the rear axle of the tricycle.

The invention aims firstly to improve existing systems, reducing wear on the chain and other mechanical organ, decrease of mechanical body and facilitate the operation of bicycles.

The advantages of this process in relation to existing solutions allow the transmission to generate motion without external moving body displayed constructive advantage in economic terms and for the construction of bicycles.

The developed mechanism refers to a transmission system for two-wheeled vehicles without the use of current or transmission mechanisms between the pedals and the rear wheel hub, allowing replacement in conventional transmission systems. The present invention applies to two-wheeled vehicles, enabling the laser mobility exercise or competition.

The existing systems in the market, have mostly systems with current between the energy system (pedals, engine, etc.) to the drive wheel activating its shaft. This system has a gearbox with variable speed. With this system we can abolish different wheel hubs as well as all mobile transmission systems, chain, sprocket and tape.

The university seeks companies that manufacture bicycles, or that manufacture components for bicycles, including component assembly companies.

**Keywords:** Bicycle Two-wheeled vehicles Transmission

## Cooperation Offered

1. License agreement
2. Other

Offer

## **Stable carbon nanofluid and obtaining methods**

Since its discovery, carbon nanoparticles have incited much attention, specifically to develop and produce new carbon-based nanocomposites. The combination of the properties of carbon nanoparticles with common materials, originate new composite materials with enhanced properties namely, thermal, electrical and mechanical properties. These new materials may possibly be used in a variety of applications, such as: in polymer reinforcement; as electrode additive materials for batteries and capacitors; as light absorbing elements; conductive ink and as enhanced heat transfer fluids.

However, carbon nanoparticles have a drawback associated to the form aggregates immediately after being produced. Therefore, the present disclosure relates to carbon nanoparticles with an improvement of solubility and dispersibility of carbon nanoparticles in a given fluid.

Keywords: Carbon Nanofluids Heat transfer

Cooperation Offered

1. License agreement
2. Investment/Financing

Offer

## **Graphical method for assessment and comparison of radiotherapy treatment plans**

This technology concerns to a graphical method to compare and evaluate different radiation therapy plans, which is always a complex process because of its inherent multicriterial nature. This method intends to be a reliable clinical decision-making support tool for the treatment plan selection. It has the advantage of giving full information on all the parameters that have driven the plan optimization in just one image and the corresponding score index. The inventors are searching for companies that might be interested in incorporating this tool into the evaluation module of their software planning solutions.

From the categorization of structures in groups with relative weights and the definition of scores calculated from dosimetric, volumetric or radiobiological criteria customized radar plots are generated. These graphics show whether all the dosimetric conditions set by the radiation oncologist at the prescription moment have been fulfilled and to compare different plans in an objective and consistent way. For each plan a global score is also calculated. The incorporation of the clinical preferences by assigning weights to the groups and structures in the dosimetric evaluation of the radiotherapy plans, allows the results of this method to be consistent with the radiation oncologist criteria at the moment of choosing the best treatment plan.

Keywords: Radiotherapy Health Treatment Plans

Cooperation Offered

1. License agreement
2. Other

Offer

## **Smart Window Protection System**

Two researchers at the University of Aveiro, one PhD student and one Assistant Professor, developed a window shutter system that can be applied into existing and new buildings. Large glazed areas dominate presently the new building design, so promoting potential use of the present window shutter. The developed window shutter optimizes the thermal energy transfer between the indoor spaces of the building and the outdoor climate, increasing the thermal comfort of their occupants and consequently enhancing the energy efficiency of the building, by lowering the use of heating and cooling systems. Comparatively to the typical windows systems, the present window shutter has the advantage of assuring good thermal performance for any region, by their adaptive features. The system is composed by phase change materials, insulation material, glass and function components. The developed geometry and shape (external and internal) allowing the system to store and release more energy than any other conventional systems. The university of Aveiro is seeking for partners and enterprises that have a core business in high-energy efficiency window solutions and shading devices.

The present innovation contributes to increase the energy efficiency of window shutter protection systems resorting to phase change materials that are applied strategically into the window shutter. This is a dynamic and responsive system based on passive solar energy that stores and release energy according to the outdoor weather conditions (temperature and solar radiation) for all seasons.

The shutter system's main innovative features are:

- Storage and release energy at any working position;
- Shutter operability does not block out natural light (if wished);
- Phase change materials are applied strategically into the window blades and the blades storage box;
- Window shutter blades geometry was developed to be more efficient and is composed by different materials;
- Shutter box geometry and composition allows to the developed window shutter store and release more energy and optimizes this energy transfers. Besides that it give the user the option to release the stored energy into the interior of the building (manually or automatically).

**Keywords:** Window Energy saving Energy efficiency in buildings

**Cooperation Offered**

1. License agreement
2. Investment/Financing