

March 10-11, 2022

ITEM 199-1502-R0322_A1

Peter A. Lucon Approval of University System/Employee Equity Interest and/or Business Participation Under MUSP 407, Attachment

SUBMISSION FORM

University System/Employee Intellectual Property Joint Participation MUSP 407

This form is to be submitted with any Board of Regents item whereby a campus seeks the approval of an agreement with or arrangement regarding an employee pursuant to 20-25-109 MCA and Regents Policy 407.

When the submission concerns matters of trade secrets or confidential business information, or any other matter entitled to privacy under state or federal law (e.g., the federal statute known as Bayh/Dole) the submitting campus may request consideration of the submission, in whole or in part, in executive session.

The submitting campus should also provide the Commissioner a copy of the contract(s) that form the basis for the cooperative arrangement for which approval is sought. Submission of the contract does not indicate a conclusion that all or part of the contract is a public document and the question of whether it is in whole or in part protected from public disclosure will be evaluated on a case by case basis.

1. Summarize the nature of the intellectual property that was developed by the employee seeking approval. Indicate the sources of funding for the research that resulted in this invention.

The intellectual properties were developed under funding provided by the Montana Technology Research office for undergraduate research and Army Research Funded research. The Army Research Funded research was funded under Army Research Lab (ARL) Cooperative Agreement (CA) Number: W911NF-20-2-0163 and Army Research Lab (ARL) Cooperative Agreement (CA) Number: W911NF-15-2-0020.

The first research under the undergraduate research program at Montana Technological University was developed to make compressors and vacuum pumps more efficient. The research has a patent pending

and the US published patent application 20200318625, Mechanical Resonant Pump, P.A. Lucon, E. Maynard, and G. Ostermiller (Filed 2020).

The second intellectual property was developed under the ARL research and is a new method for processing and printing metal parts using additive manufacturing techniques. The research has a PCT patent application and will be filed in the US at the proper time. The Patent Application information is PCT/US2021/45830, Dry Metal Alloying Compositions and Related Methods, R.L. McNabb, P.A. Lucon, N.J. Huft, T.O. Winsor (Filed Aug. 2021) US Provisional Patent Filing Application Number: 63119420 & 3064758.

Dr. Lucon is very product-oriented and much of his research in additive manufacturing and research interests are product-oriented.

2. a. Name(s) of the university employee(s) involved.

Peter A. Lucon

Nathan J. Huft (involved in the ARL patented research)

- b. Name(s) of business entity(ies) involved.

Lucon Engineering Inc.

3. The university and employee(s) are seeking approval for (check as many as appropriate):

- a. The employee to be awarded equity interest in the business entity.
- b. The employee to serve as a member of the board of directors or other governing board of the business entity.
- c. The employee to accept employment from the business entity.
- d. Other. Please explain.

Dr. Lucon is already an equity partner in Lucon Engineering Inc., an employee of the company, and serves as a member on the board of directors.

4. a. Summarize the nature of the relationship between the university and the business entity (e.g., the entity is licensing the intellectual property from the university, the entity is co-owning the intellectual property with the university).

The entity would like to start discussions for eventual licensing of the technology developed by the University.

- b. The proposed duration of the agreement or arrangement.

These are yet to be determined.

- c. The conditions under which the agreement may be terminated or dissolved.

These are yet to be determined.

- 5. Explain specifically how the University System or the State of Montana will likely benefit from the agreement or arrangement.

- a. By enabling a direct technology transfer of University generated intellectual property to a company devoted to product design and bringing new technology to market.

- b. Dr. Lucon teaches EMEC 322 – Product Development, in which he continues to refine the teaching to incorporate the pitfalls and methods used to successfully bring these new technologies and products to market.

- c. By creating an example of methodology on how to develop IP and how to market it to industry.

- e. In partnerships, it is envisioned that undergraduate students and graduate students will eventually be hired by Lucon Engineering, Inc. to develop and sell the new products.

- f. Through a partnership, Lucon Engineering Inc. can also seek SBIR/STTR funding for further development of the technologies. Additional developmental grants for marketing and sales developments may be sought through the state and one of these is the Big Sky State Fund Trust Grants.

- g. In addition, the state of Montana will gain revenue from the technology transfer and generating a profitable business from these technologies.

- 6. Summarize the financial terms of the agreement or arrangement. Include:

- a. The value, nature and source of the University's contribution.

The university has contributed to the cost of the patents and in the case of the undergraduate funded project, it directly funded the research from the students.

- b. The value and nature of the employee's contribution.

The employee has had the initial ideas, developed and tested them out, and drove the patent process. Without the pushing of the employee, the IP will not move further than this stage. The employee devoted his time as a service to help develop the compressor patent while mentoring undergraduates under the undergraduate research program at Montana Technological University. The employee's specialized skill, the contribution and the inventions are unique, and it is hard to transfer the invention as technical transfer without the inventor's continued value in this process.

- c. The anticipated revenue to be generated by the project and the time line for generating such revenue.

Yet to be determined. Once a market evaluation of each of the technologies has been performed, then a better picture can be drawn. Development funding will be sought during the first two-three years after the licensing agreement. The development funding will be first sought through government programs such as SBIR/STTR and other development grants for new technologies. Next, private funding will be investigated. The total timeframe for product launches from a licensing agreement would be around five years.

- d. The manner in which revenue and expenses will be shared by the parties.

Yet to be determined.

- e. The nature of each party's equity interest in the project. If none, so indicate.

Lucon Engineering Inc. None to date.

Montana Technological University. All of the equity in the Intellectual Property.