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Abstract

Free Software and Hardware Design: Tools for laboratory automation and science communication

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Abstract:

The production of recombinant proteins for therapeutics, veterinary and agricultural purposes is a very successful technology. The process relies on achieving the proper cell growth conditions and induction of protein expression, which requires a careful screening experiment before scaling up the production. Automation in a miniaturized and high throughput format for protein production allows researchers to conduct higher complexity experiments as it handles a number of different samples and conditions simultaneously. For structural biology studies, obtaining well expressing and correctly folded protein from gene constructs is still a time consuming process. Although various methods are available, the equipment required for parallel expression experiments is expensive and restricted to facilities operated by trained personnel. This study reports the construction of an inexpensive customizable device for high throughput protein expression making use of 3D printing techniques and free software/hardware design (1,2).

Biography:

Laure Stelmastchuk has bachelor degree in pharmacy, has experience in gene characterization, recombinant protein production, x-ray chrystallography and EPR. Currently is developing a high throughput bioreactor making use of Free Software/Hardware Design and 3D printing techniques as

PhD project. In her role as educator, combines science communication, arts and technologies such as additive manufacturing.

Publication of speakers:

1. Laure Stelmastchuk; Mediterr J Hematol Infect Dis. 2019; 11(1): e2019065. Published online 2019 Nov 1.
2. Laure Stelmastchuk, C Binsinger, T Lecerf, C Ayotte,Br J Sports Med. 2003 Aug; 37(4): 335–338.
3. Laure Stelmastchuk, C Binsinger;Br J Sports Med. 2007 Oct; 41(10): 660–663. Published online 2007 May 1.
4. Laure Stelmastchuk; J Sports Sci Med. 2006 Mar; 5(1): 123–129.
5. Laure Stelmastchuk ;Proteome Sci. 2015; 13: 32. Published online 2015 Dec 2.

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