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(71) Applicants (for all designated States except US):

UNIVERSITY OF MARYLAND, BALTIMORE [US/US]; Office of Technology Transfer, 620 West Lexington Street, 4th floor, Baltimore, Maryland 21201 (US). **BREETHE, INC.** [US/US]; 1500 Joh Avenue, Suite 190, Halethorpe, Maryland 21227 (US).

(72) Inventors; and

(71) Applicants (for US only): **WU, Zhongjun** [US/US]; 2111 Whitman Way, Marriottsville, Maryland 21104 (US). **GRIFFITH, Bartley P.** [US/US]; 1718 Banbury Road, Gibson Island, Maryland 21056 (US). **ZHANG, Jiafeng** [CN/US]; 2115 Little Sorrel Way, Silver Spring, Maryland 20902 (US). **LUDDY, Charles** [US/US]; 7919 Candlewood Drive, Alexandria, Virginia 22306 (US).

(74) Agent: **STONE, Gregory et al.**; Whiteford, Taylor & Preston, LLP, Seven Saint Paul Street, Baltimore, Maryland 21202-1636 (US).

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(54) Title: IMPROVED CENTRIFUGAL BLOOD PUMP

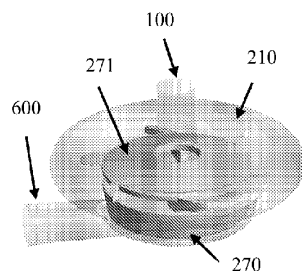


FIGURE 1

(57) Abstract: A blood flow pump device includes a centrifugal pump having a single ball-and-cup hybrid magnetic/blood immersed bearing-supported shrouded impeller driven by a magnetically coupled motor drive. The device further includes a housing, an impeller, and a shroud, thus forming a pump chamber. The impeller is a shrouded impeller having extended blades from a hub of the impeller and the shroud. The system and method employ a blood flow pump device having a housing with a blood inlet and a blood outlet, the housing defining a fluid pathway between the inlet and the outlet, and the housing containing an impeller comprising a base, a base lid, two blades, and a shroud, with the housing positioned on a motor. A controller communicates with the motor and controls rotational speed of the impeller in response to the blood flow through the blood outlet.

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