The Ariel Biomechanics Center (ABmC) is a research center that harnesses mechanical and medical engineering to study the structure, dynamics and function of biological systems, to investigate the physiological basis of diseases and to help develop medical devices for clinical diagnosis and therapy. The research conducted in the ABmC utilizes state-of-the-art experimental, analytical, and numerical simulation techniques.

The current research of the ABmC team is focused on the following specific topics:

- Interaction between blood, tissue and medical devices in the vascular system and vascular remodeling
- Numerical methods to predict complex dynamics of blood and tissue
- Flow and structure dynamics in heart and heart valves
- Biomechanics of human joints and optimization of human body movements
- Man-machine interaction in transportation engineering and safety

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About Ariel Biomechanics center

The Ariel Biomechanics center is a research center dedicated to the study of the mechanics of medical and industrial systems to understand the structure, dynamics, and function of biological systems, such as the heart and the body. The center's research employs advanced computational and analytical techniques.

The research team focuses on the following topics:

- Interaction between blood, tissues, and medical devices in the blood system and changes in the blood system.
- Numerical methods for predicting complex dynamics of blood and tissues.
- Flow dynamics and structure in the heart and large blood vessels.
- Biomechanics of fractures and optimization of human body movements.
- Interaction between humans and machines in the field of transportation and safety.
- Identification and optimization of movements and forces in the human-body system.
- Identification of human movements in complex and difficult movements of the human body.