Creating an Artificial Pancreas

Code of Ethics

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**Overarching Principle**

To develop an artificial pancreas that will effectively incorporate conventions of previous devices in addition to novel technologies in order to minimize distress experienced by individuals afflicted with diabetes.

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**Law and Regulation**

<table>
<thead>
<tr>
<th>Pressure</th>
<th>Risk</th>
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</thead>
<tbody>
<tr>
<td>Complete testing sessions before the deadline.</td>
<td>Use of the lab at an unauthorized time, or use of an unauthorized lab.</td>
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<tr>
<td>Receive external funding from public and private grant.</td>
<td>Falsification of information to make the project more eligible for the funding.</td>
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<tr>
<td>Immediate necessity of using a piece of equipment.</td>
<td>Use of the equipment without having adequate training or permission.</td>
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<tr>
<td>Produce a design within the deadline.</td>
<td>Infringe on patents by not doing the necessary research or by knowingly using a patented design.</td>
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**Canon:** Obey federal and state laws; work within constraints and guidelines to make the technology efficient and reliable.

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**Contracts**

<table>
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<tr>
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<th>Risk</th>
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<tbody>
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<td>Receive credit for achievement.</td>
<td>Individuals may take credit for tasks they have not done.</td>
</tr>
<tr>
<td>Receiving lab materials as soon as possible.</td>
<td>Use of unethical means (borrowing without permission, for example) to obtain necessary materials.</td>
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**Canon:** Respect the abilities and rights of all peers, colleagues, and other persons with whom he or she has contact.

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**Professional Codes**

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<tr>
<th>Pressure</th>
<th>Risk</th>
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<tr>
<td>Start lab work early to achieve more.</td>
<td>Neglect to gather background information on lab techniques.</td>
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<tr>
<td>Gain approval from other team members by showing oneself as resourceful.</td>
<td></td>
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Risk: Not asking for assistance, even when required, and risking development of the project.
Pressure: Not receiving scrutiny from others.
Risk: Display negative emotion or becoming defensive about honest critique.

Canon: Strive to use and apply the most accurate and current knowledge available, to welcome assistance from experts, to stay objective, and to be open to any possible scrutiny from others.

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**Industry Standards**

Pressure: Develop an affordable product.
Risk: Use materials and manufacturing processes that compromise the safety of product.

Pressure: Release the product in a timely fashion.
Risk: Sell a product that has not been tested for all parameters.
Risk: Sell a product that does not meet its design intent.

Pressure: Obtain meaningful results.
Risk: Alteration of data to suit testing hypothesis or anticipated results.

Canon: Provide a product that is safe, reliable, and effective in fulfilling its design intent.

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**Community**

Pressure: Develop a product that aids the general consumer in living a healthier life.
Risk: Develop a product that may not be accessible to everyone in the market.

Pressure: Develop a product that satisfies all design parameters.
Risk: Develop a product that does not work safely or efficiently.

Pressure: Accommodate too many tasks for one lab session
Risk: Leave the lab unorganized and unsafe.

Canon: Understand our responsibility to produce a product with the aim of bettering the community; prevent any irrevocable damage to the overall environment.
**Personal Relations**

Pressure: Time constraints  
Risk: Not provide feedback to our outside partners and investors in a timely manner.

Pressure: Keep our relationship with our partners on good terms.  
Risk: Not provide constructive feedback.

Pressure: Maintain competitive edge.  
Risk: Using competitors’ findings without notification and consent.

**Canon:** Keep our relationships with our outside partners and acquaintances in a professional and respectable manner.

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**Moral Values**

Pressure: Develop a product that is marketable.  
Risk: Be untruthful in regards to product functionality.

Pressure: Develop a device that meets the design parameters.  
Risk: Develop a device that does compromises safety and efficiency at the price of aesthetics.

Pressure: Implement feedback from users that will improve the overall effectiveness of the product.  
Risk: Limit the influence of the product tester on the product.

**Canon:** Respect and maintain honesty by avoiding deception to preserve the integrity of the project.