This brochure acknowledges the many Nobel Prize winners whose research was supported by AFOSR. A few examples of the types of research these Nobel winners have explored and the refinements they have achieved include:

- **David Hubel and Thorsten Wiesel** (1981) in Physiology or Medicine: Their studies of motion-sensitive cortical cells, which led to our understanding of how humans detect and track objects, earned them the Nobel Prize. They found that certain areas of the visual cortex respond to specific stimulus features.

- **Paul Flory** (1975) in Chemistry: His work on the dynamics of macromolecules and the development of polymer science laid the groundwork for understanding how materials respond to their environment.

- **William Bragg** (1915) in Physics: His study of X-ray diffraction was instrumental in understanding the atomic structure of materials.

- **John Bardeen** (1956) in Physics: He was a pioneer in the theory of nuclear reactions--especially his work on the interactions of nuclear particles.

- **Lars Onsager** (1968) in Chemistry: His work on the statistical mechanics of irreversible processes provided a framework for understanding how systems lose energy.

- **Eliahu I. Cohen** (1974) in Economics: His work on the economics of information and the development of the modern market economy led to his Nobel Prize.

These outstanding Nobel Prize winning research contributions in physics, chemistry, medicine, and economics have led to scientific breakthroughs that have dramatically affected not only the Air Force, but science and technology in general. The extraordinary body of work of this impressive list of researchers has led to scientific breakthroughs that have dramatically affected not only the Air Force, but science and technology in general.

**SB 1961**
- **Chandrasekhar** (1983) in Physics: His theoretical studies on the dynamics of stars and the evolution of stellar systems.
- **Steven Weinberg** (1979) in Physics: His work on the interactions of elementary particles and the theories of strong and weak nuclear forces.
- **Koichi Hamada** (1981) in Economics: His work on the international trade and finance.

**SB 1962**

**SB 1995**

**SB 2005**
- **Steven Chu** (1997) in Physics: His work on the development of technology to cool and confine atoms, which are responsible for the fundamental limitations of optical frequency.

**SB 2004**
- **Ilya Prigogine** (1977) in Chemistry: His work on the chemical evolution of order and the development of the theory of dissipative structures.

**SB 2015**
- **Sara K. Blatt** (2018) in Chemistry: Her work on the development of new methods to study the behavior of matter.

**SB 2016**
- **Kip Thorne** (2017) in Physics: His work on the development of gravitational wave detectors.

**SB 2017**
- **Alexander Karp** (2018) in Economics: His work on the development of new methods to study the behavior of financial markets.

**SB 2019**
- **Loic Piccard** (2019) in Physics: His work on the development of new methods to study the behavior of matter.

**SB 2020**
- **Carolyn Bertozzi** (2021) in Chemistry: Her work on the development of new methods to study the behavior of chemical systems.

**SB 2021**
- **Rita Colwell** (2021) in Physiology or Medicine: Her work on the development of new methods to study the behavior of bacterial communities.

**SB 2022**
- **David Thouless** (2016) in Physics: His work on the development of new methods to study the behavior of quantum systems.

These research contributions have led to scientific breakthroughs that have dramatically affected not only the Air Force, but science and technology in general.
This brochure acknowledges the many Nobel Prize winners whose research was supported by AFOSR. A few examples of the types of research these Nobel winners have explored and the discoveries that resulted in a Nobel Prize:

<table>
<thead>
<tr>
<th>Year</th>
<th>Field</th>
<th>Discoveries/Inventions</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>Chemistry</td>
<td>Foundation for modern electronics technology, including the transistor</td>
</tr>
<tr>
<td>1961</td>
<td>Chemistry</td>
<td>Laser precision, including the development of the Chemical Oxygen Iodine Laser (COIL)</td>
</tr>
<tr>
<td>1962</td>
<td>Economics</td>
<td>Development of economic theories concerning the structure of economic systems, including economic growth and development</td>
</tr>
<tr>
<td>1963</td>
<td>Physics</td>
<td>Development of superconducting materials, including the discovery of superconductivity in materials</td>
</tr>
<tr>
<td>1964</td>
<td>Physics</td>
<td>Development of solid-state physics, including the discovery of the Josephson effect and the development of superconducting materials</td>
</tr>
<tr>
<td>1965</td>
<td>Chemistry</td>
<td>Development of polymer science, including the synthesis of synthetic polymers</td>
</tr>
<tr>
<td>1966</td>
<td>Medicine</td>
<td>Discovery of new medical treatments, including the development of new drugs and medical procedures</td>
</tr>
<tr>
<td>1967</td>
<td>Physics</td>
<td>Development of new physics theories, including the discovery of quarks and the development of new particle physics</td>
</tr>
</tbody>
</table>

AFOSR is grateful for its continued support of Basic Research endeavors and the development of new and innovative technologies. This support has led to numerous groundbreaking discoveries and has helped advance the state of knowledge in many fields. AFOSR continues to support Basic Research endeavors, and this brochure highlights just a few of the many notable discoveries that have resulted from this support.

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