<table>
<thead>
<tr>
<th>Name:</th>
<th>Richard C. Sobe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Job Title:</td>
<td>PhD Student</td>
</tr>
<tr>
<td>Institution:</td>
<td>Virginia Tech</td>
</tr>
<tr>
<td>Title of Work Used:</td>
<td>Collaborative signaling by bacterial chemoreceptors</td>
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<tr>
<td>Copyright Holder:</td>
<td>Elsevier</td>
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<tr>
<td>Publication Status:</td>
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<td>Publisher:</td>
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<td>Place of Publication:</td>
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<tr>
<td>Publication Year:</td>
<td>2005</td>
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<tr>
<td>Description of Work:</td>
<td>This work describes how clusters of bacterial proteins known as chemoreceptors interact with one another to integrate and amplify environmental signaling cues to modulate motility in a collective manner.</td>
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<tr>
<td>Date of Evaluation:</td>
<td>June 6, 2022</td>
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<tr>
<td>Date of Intended Use:</td>
<td>June 6, 2022</td>
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</tbody>
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**Describe the **Purpose and Character of Your Intended Use:**

I am using a figure from this paper to describe how chemotaxis signaling occurs in bacteria through complex protein networks to modulate the activity of their flagella. This figure provides a nice summary of a rather complex but well-described and freely available set of ideas regarding the characteristics and mechanisms of chemotaxis signaling. This information provides context for understanding how flagellum activity is controlled in bacteria, which is the more direct focus of my work.

[+] Use is for "criticism, comment, news reporting, teaching, (including multiple print copies for classroom use), scholarship or research"
[+] Use is not-for-profit
[+] Use is socially beneficial (promotes the creation of new knowledge, learning, etc.) [define how]
[+] Use is clearly defined and is restricted in scope (limited duration, not iterative, restricted access, etc.)
[+] Use is one-time, or is only occasional or spontaneous

![Fair Use Evaluation Icon]
Describe the **Nature** of Your Intended Use of the Copyrighted Work:

This information is freely available in open-source journals, textbooks, and other resources. I chose this particular figure because of its ease of understanding for the less-familiar reader.

[+] Work to be used has been previously PUBLISHED
[+] Work to be used contains limited new knowledge, content, or creative expression (in relation to previously copyrighted works)
[+] Work to be used is primarily of a factual nature (non-fiction, collection of facts, etc.)
[+] Original work was not created and/or has not been marketed for the stated purpose of the proposed use

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[+] Only limited and reasonable portions will be used
[+] The portion used is not the "heart" of the work (the portion considered most central to the work as a whole)
[+] Only the amount required to achieve the stated, socially-beneficial purpose or objective will be used (be that educational, artistic, scholarly, journalistic, etc.)
[+] The amount used falls within widely recognized fair use guidelines* vetted by key stakeholder groups [reference guidelines]

Describe the **Effect** of Your Intended Use on the Potential Market or Value of the Copyrighted Work:

[+] The work is NOT currently under commercial exploitation (out of print, no licensing available, etc.)
[+] A market for the work as it will be used is absent or is negligible & use of the work will have little or no negative impact on its value or potential value
[+] Use of the work minimizes the potential for unauthorized use that could impact its value (i.e. steps are taken to ensure the content is not used outside of the stated purpose or audience)
[+] Proper attribution will be given with the intended use

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*reference guidelines"
The Average "Fairness Level," Based on Your Rating of Each of the 4 Factors, Is:

[see tool disclaimer for important clarifying information]:

Fair | Unfair

Based on the information and justification I have provided above, I, Richard C. Sobe, am asserting this use is FAIR under Section 107 of the U.S. Copyright Code.

Signature: 

Date of Signature: 

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