### UTokyo Amgen Scholars Program 2022
**Host Laboratories & Project Topics**

<table>
<thead>
<tr>
<th>Name of Faculty Member (Title)</th>
<th>NAKAGAWA Keiichi (Lecturer)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of Graduate School / Faculty/ Institute</td>
<td>Graduate School of Engineering</td>
</tr>
</tbody>
</table>
| Research Topic & Research Description | 1) Ultrafast imaging: we will visualize the acoustic interaction with biological cells (pico- to nano-second timescales) to understand the therapeutic effects on the body in noninvasive acoustic wave therapy.  
2) Biophotonics: we will develop a new method to produce acoustic waves inside the body to manipulate the photons’ behavior for optical biotechnologies.  
3) Biophysics: we will demonstrate sonogenetics --to control the activity of the cells, like optogenetics-- with genetically engineered sono-sensitive cells based on our photoacoustic technology. |
| Special academic conditions required for research | 1) Prerequisite knowledge and/or specific skill and its proficiency  
None  
2) Required study field(s)  
None  
3) Academic background or research project experience to be considered at selection  
Optical engineering (all topics), Cell biology (topic 1 and 3), Brain science (topic 2 and 3) |
| Lab Website | Group website: http://www.bmpe.t.u-tokyo.ac.jp/en/index.html  
Personal website: https://sites.google.com/site/keinakagawa6 |
| Campus | Hongo |
| Academic Research Areas | Bioengineering  
Biotechnology  
Neuroscience |
| Lab Videos | Visit the Lab Websites to access the movies |