Canyon Crest Academy x DNHS Partnership

Table of Contents:

Introduction:

Canyon Crest Academy and Del Norte High School iGEM teams held virtual, weekly meetups for a total of 14 meetings, albeit two of these were modeling-specific meetings. Monday was designated as the collaboration meet day, as agreed upon by both teams in order to maximize team participation and adjust to school demands. Each meeting lasted from 20 to 40 minutes, where teams would first give general updates regarding their own projects, followed by mutual questions and feedback in response to these updates. Our teams would then proceed to discuss specific areas of concern in our respective projects at a deeper level, and occasionally, we shared/presented some of our actual projects (etc. HP Surveys, iGEM promo videos). During the meetings, we were able to help DNHS with their workshop planning (as we had prior experience running a summer camp) as well as with modeling software and refining their project idea, while DNHS also provided us with advice on MATLAB, selecting our lab apparatus, and getting in touch with potential labs to conduct the research for our project. Furthermore, we also shared our IHP surveys, and helped each other to promote the forms through advertising. We also gave feedback on our introductory, promotional videos. Both schools found this collaboration to be mutually beneficial and crucial to the outcomes of our process, and allowed us to overcome unique obstacles.

Examples of Meaningful Collaboration/Partnership:

LAB:
- Exchanged lab contacts
- DNHS provided CCA with advice on lab apparatus and procedure
- CCA gave suggestions on potential modifications to DNHS' machine learning project

MODELLING:
- Engaged in subdivision meetings to discuss progress and share ideas
- Exchanged knowledge on application usage (GNU Octave, Machine Learning)
- MATLAB

SCIENCE COMMUNICATION:
- CCA provided DNHS with expertise on running camp/workshop; commented on material and itinerary
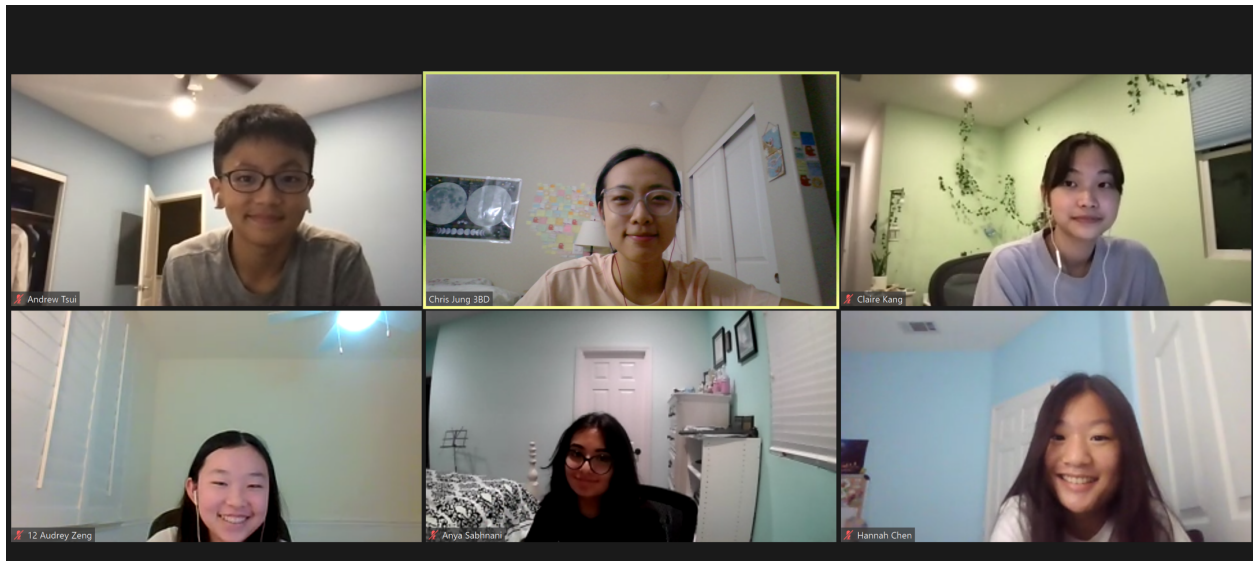- DNHS proofread CCA's biochemistry book

HUMAN PRACTICES
- CCA and DNHS brainstormed idea of three-way symposium on Diversity or Ethics; furthered by narrowing down to podcast/youtube video (pending)
- Exchanged and Review HP Surveys
- DNHS looked through CCA's Diversity Literature Review; CCA reviewed DNHS' Ethics

OTHER
- Discussed Leadership/Organizational Strategies to curb inactivity
- Reviewed each team's medal criteria + special award goals
- Wiki tips and plans

Media:

^ July 26th General Collaboration Meeting

^ July __ General Collaboration Meeting

Documentation:

Meeting 1 (6/28/21) -
- Introductions + Collaboration Expectations
- Project Overviews; Discuss progress so far
- Future Goals + Decided on Meeting Day

Meeting 2 (7/5/21) -
- Progress Recap + Feedback
- Refining project value propositions + pitch; developing/building onto project idea
- Discuss Medal Criteria (aimed special awards + criterion to fulfill)
- Miscellaneous iGEM paperwork + registration stuff
  - Fundraising + Project Impact Grant (already submitted - just discussed) + Sponsorships
  - PI + Secondary PI
  - Registration Forms for members

Meeting 3 (7/12/21) -
- Progress Recap + Feedback
- Lab (JCVI, Laboratories, Procedure) and Modeling (ODE, MATLAB) discussed in detail - specifically usage and "planning"
  - CCA: Getting JCVI (research facility) permission, procedure, tensile strength testing, protein interaction networks + protein folding models, and saturation curves.
  - DNHS: Machine Learning, promoters for VOCs (Lung Cancer)
- Talked about Ongoing CCA Summer Camp + ideas for DNHS planned workshop/other forms of communication
- HP/IHP concerns (DNHS) about reaching out to related professionals in oncology, survivors of lung cancer, and NPOs. Awareness + possible diversity workshop/symposium (idea brought up)
- Briefly mentioned promo videos

Meeting 4 (7/19/21) -

- Progress Recap + Feedback
- Showed each other working drafts/finished product of promo video
- Discussed progress related to Lab/Modeling; inquired about potential ways to further creatively display impact of CCA camp + Science Communication material
- Not much discussed as members all agreed to keep meeting brief.

Meeting 5 (7/26/21) -
- Progress Recap + Feedback
- Lab/Modeling brief updates + discussed encountered problems
  - For lab, CCA co-captain Chris talked about issues with the quality of Collagen purchased
  - Modeling: Agreed to further meet in separate meeting involving entire subdivision for more specific discussion (to troubleshoot especially)
- Shared to members + gave feedback on each other's Human Practices Survey

Meeting 6 (8/2/21) -
- Progress Recap + Feedback
- Discussed in-person meeting plans + team organization (warning/removal system to incentivize inactive members)
- Reviewed each other's Science Communication and Human Practices work:
  - DNHS looked over our Biochemistry Book and suggested adding a section about ethics
  - Camp Analysis + Diversity Document
  - Helped DNHS further plan logistics + content for the workshop; advertisement strategies
- Another brief meeting (due to unexpected delays in relation to lab - captain was at lab) but managed to recap + to do some peer review

Meeting 7 (8/9/21) -
- Progress Recap + Feedback
- Created co-planning document to brainstorm for potential ways to meet 'Collaboration' and 'Partnership' criterions for iGEM
  - Potentially hosting a 3 way diversity symposium with WVHS (discuss in private group chat)
    - Panel
    - Workshop
    - Invite professionals + student leaders
  - Something related to applications of collagen in lung cancer (organ grafts?)
- Revised Medal Criteria + Special Award goals; discussed each team's intended outcomes to fulfill criteria
- Budget management for iGEM impact grant + other sponsorship money

Modeling Meeting 1 (8/12/21) -
- Went over MATLAB and Python Software + Application
- Miscellaneous Modeling Topics:
    - Young's Modulus + Stress Strain Curve
    - Strength of Chain - factors
    - Machine Learning

Meeting 8 (8/16/21) -
- Progress Recap and Feedback

(Updates sent virtually through chat platform due to school)

Meeting 9 (8/23/21) -
- Progress Recap and Feedback
- Began Planning potential "Diversity" or "Ethics" Symposium
    - Workshop (activism/science communication relevant)
    - Panel and Speaker Event involving:
        - Industry Professionals
        - Student Activists + URM Leaders
        - Professors
    - Three-Way Collaboration with WVHS?
- Organized second modeling meeting

Modeling Meeting 2 (8/26/21) -
- Discussed last year's modeling techniques + applications to this year (DNHS model - made with help from advisor)
- Shared relevant papers and instructional resources
    - Figuring out + discussing GNU Octave usage
    - Python and Machine Learning resources
    - Spyder
- 3 way modeling collaboration?

Meeting 10 (8/30/21) -
- Progress Recap and Feedback
- Science Communication and HP Peer-Review + Check:
    - Peer-Reviewed IHP Analysis document
    - Communication/education criteria material
    - CCA Biochemistry Book
- Lab Progress at JCVI (CCA), progress on lung cancer VOCs

Meeting 11 (9/6/21) -

- Progress Recap and Feedback
- Continued to discuss HP and Science Communication primarily (lab and modeling heads absent)
    - CCA - Shared our Diversity Literature Review and received feedback; PRISMA Flowcharts, Methods, and good databases
    - Del Norte - Workshop and Analysis Writeups; Contribution?
- Del Norte introduced new mentor and we discussed in person vs virtual meetings
- Potential jamboree host site in San Diego?

Meeting 12 (9/13/21) -

- Progress Recap and Feedback
- Reviewed each other's wiki plans
    - Layout
    - Design and Branding Tools
    - Website Programming - exchanged contacts for coders
    - Final medal criteria check
- Decided against doing Symposium (lack of response from intended speakers); instead explored the idea of a podcast/youtube video instead (same topic)
- Plans after iGEM season

Meeting 13 (TBD) -

- Progress Recap and Feedback
- Reviewed Presentation Videos and Jamboree Slideshows