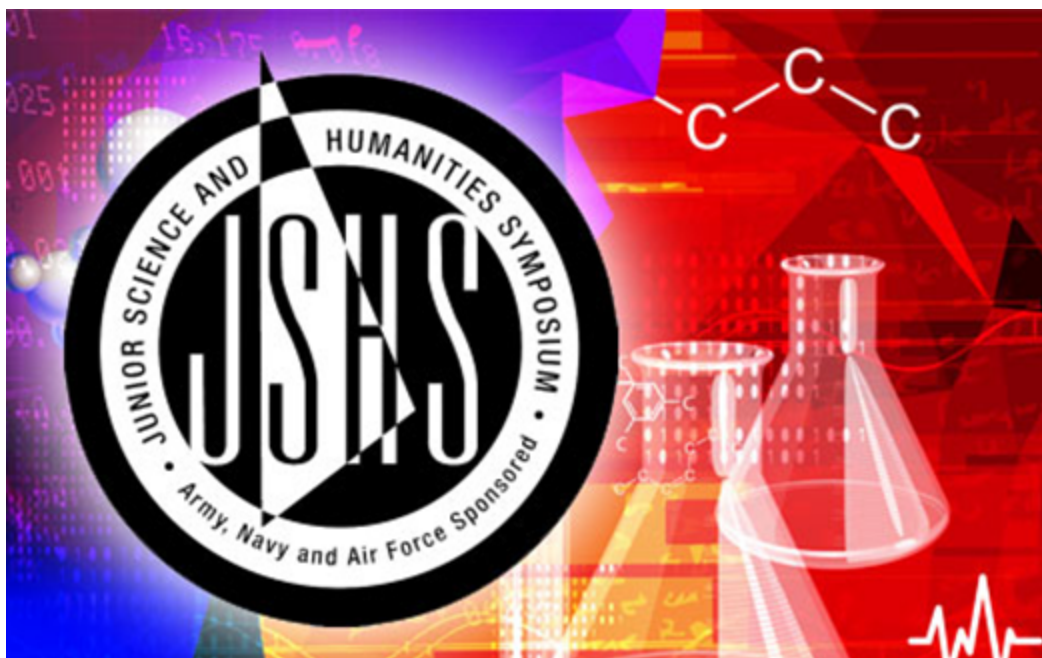


Westchester - Rockland

Junior Science and Humanities Symposium



STUDENT INFORMATION PACKET 2021 - 2022

**Student registration and uploads of papers and abstracts must be completed by 11:59 pm,
November 30, 2021**

Welcome to Westchester-Rockland Junior Science and Humanities Symposium

The WR-JSHS is a sub-regional competition for student researchers. Due to constraints presented by the pandemic and the hybrid model of schooling in which we are currently working, WR-JSHS will offer senior speaker presentations ONLY for all participants and the WR-JSHS Symposium will take place live at John Jay High School with the potential to pivot to fully virtual over Zoom if necessary. Please use this booklet to prepare and apply for this exciting competition.

The committee is organizing two levels of competition:

1. **WR-JSHS Regional Speaker Competition** - students will be eligible to move onto the Upstate JSHS Competition.
2. **Local Speaker Session** - students will present and may place in their room, but they will not be eligible to move onto state or national levels.

Registration Eligibility & General Information

Original research is required for WR-JSHS

- **Senior Speaker PowerPoint must present original student work w/ JSHS certifications.**
- Presenting data that a mentor collected and analyzed will result in **disqualification**.
- Students are permitted to design and present projects that utilize data from public and/or privately collected databases/data sets. However, the question, analysis, and conclusions must be the work of the student rather than a summation and analysis of already published data.
- Meta-analysis and Review Papers are not permitted. Meta-analysis projects, the examination of data from a number of independent published studies of the same subject, in order to determine overall trends, will not be considered by the committee.
- If a student does not have data and analysis, she/he is not eligible for WR-JSHS.

2) Certification Requirements

- **Certifications are required for the speaker competitions.**
- **Only the JSHS Statement of Outside Assistance will be accepted for WR-JSHS:**
 - **This form must be completed and hand-written signatures provided where indicated**-this an Upstate JSHS requirement, **by the student, teacher, and scientist**
 - **Research institution of the scientist (or former, if retired) must be provided.**
- The certifications must be included as the last page(s) of the research paper.
- Keep a copy of everything you submit, including certifications.
- The Statement of Outside Assistance form is available here:
<http://www.albany.edu/jshs/index.shtml>

3) Technology Tips for Hand-written Signatures

- i) To achieve a hand-written signature please use [Adobe Reader](#) or the [Kami](#) extension for Chrome.
- ii) Resources on how to digitally sign documents:
 - <https://helpx.adobe.com/reader/using/sign-pdfs.html>
 - <https://help.kamiapp.com/en/articles/2963200-insert-image-and-signature-tool>
 - <https://blog.kamiapp.com/more-options-to-add-a-signature/>

Requirements for Speaker Presenters (seniors only):

1 de-identified abstract- formatted for JSHS, but includes ONLY the title and student name in heading - PDF format only See page 7, Appendix B, for a sample format

1 copy of the paper, formatted for JSHS and **including student, scientist and teacher certifications on the Statement of Outside Assistance form**, submitted as a **PDF** in the Google form

Please review paper requirements, **on page 3**, carefully

- o This is the paper that will be used to qualify for speaker selection for WR-JSHS
- o If a student wins in the Regional Competitive Speaker Category and moves onto the state level as either a speaker (placed 1st or 2nd in room, or a poster, placed 3rd or 4th in a room) this paper will be sent to Albany for the judges to review.
- Most papers will be at least 10 pages and contain at least 10 works cited.
- **There is a 20 page maximum for all papers.** *Do not count: Title page, Acknowledgement of major assistance, Table of Contents, Statement of Outside Assistance, Lists of Figures, References or Citations.* See **page 3** for detailed information on paper requirements.
- Here is the link to info about paper format and submission: <http://www.albany.edu/jshs/> - Also see info on **pg 3** of this packet regarding formatting.

If a student qualifies for but is not selected for the WR-JSHS Regional Speaker Competition, he/she will be placed into Local Speaker Session where students will have the opportunity to present to teachers and other volunteer judges. Students will be ranked and the top students will receive a place certificate (1st, 2nd, 3rd).

A team project may apply for the WRJSHS Regional Speaker Competition, but only one member of the team may present-the team members are not interchangeable. The second member may present in the Local Speaker Competition. In the case that a team project is not selected for the WRJSHS Regional Speaker Competition, both members of the team may present in the Local Speaker Session. If the team project is selected to move onto the Upstate JSHS, only the team member who applied for and presented in the WR-JSHS Regional Speaker Competition can move onto the Upstate JSHS.

Incomplete or improperly formatted papers will not be considered and will result in disqualification from the competition speaker category. Students with **incomplete/improperly formatted** papers will be moved into the **Local Speaker Session**.

WR-JSHS Paper Requirements - Speaker

Student research should be original, if not completely unique. It must report findings not previously cited in scientific literature. It is important that you follow the format and content guidelines below.

Format

- 8 ½" X 11" page format, One inch margins all around
- 11 point font, 1.5 spacing
- 20 page limit (In counting pages, count: Abstract, Review of Literature, Statement of Purpose, Methods and Materials, Results, Discussion, Conclusions and Significance of Findings and any graphs or charts. Do not count: Title page, Acknowledgement of major assistance, Table of Contents, Lists of Figures, References or Citations, Statement of Outside Assistance)
- Most papers will have a minimum of 10 pages with 10 citations from primary sources
- Each page must include a header with only your last name and page number.
- The last 3 pages of your paper should be the student certification, mentor certification and teacher certification. Certification forms are available here: <https://www.albany.edu/jshs/> and **MUST contain handwritten signatures.**
- **Submit one copy** of your research paper in PDF format

**** Inaccurate or incomplete submissions will not be considered***

Paper Content

| | |
|-------------------------------------|---|
| Cover Page | Your Name, School Name, and Project Title |
| Acknowledgments | Acknowledge the assistance of mentors, institutions & teachers |
| Table of Contents | Organized by topics and sub-topics: include the page numbers on which each begins. |
| List of Figures & Tables | List each figure/table with title and page number |
| Abstract Paragraph | THIS IS PAGE 1 (do not put a number on the previous pages). This is not the abstract form. |
| Introduction | Background and Review of Literature |
| Statement of Purpose | Written statement explaining the purpose of your research |
| Methods & Materials | Narrative format describing what you did/how you carried out your work |
| Results | Data/Findings |
| Discussion / Conclusion | Describe what the data means and how you know (statistics) |
| References | References must be cited at least once in the paper and listed at the end of the paper. Citations (footnotes, endnotes) are required for important statements of facts or opinions taken from written sources. Each citation to a reference should be given in the body of the text in the style of scientific journal articles. A minimum of 10 significant citations is expected. |
| Certifications | All certifications (Scientist, Teacher, Student) must be included with the paper on the Statement of Outside Assistance form which MUST include HAND-WRITTEN signatures. |

For all formatting questions please see the JSHS website for more clarification:

<https://www.albany.edu/jshs/>

Rules & Guidelines for the day of the fair February 5, 2022:

Speaker PPT Competition Rules

- All Speakers will present live in person, or live in a Zoom session should circumstances warrant, and will be expected to follow in-person and/or Zoom etiquette guidelines.
- Speakers must have their presentation available to present live; ONLY PowerPoint and Google slides formats are acceptable.
- Presenters will be organized in Speaker Rooms based on category selection. Typically there will be 12 speakers in each room.
- Each room will have 2 sessions (morning and afternoon) with 6 speakers in each session, with a ten minute break between the third and fourth speaker.
- Speakers will present a twelve (12) minute PowerPoint presentation.
- Students presenting on the day of the competition without a presentation will be disqualified.
- If you are late for your presentation, you will be disqualified. (students should sign in for the session at the start of the session and remain for the entire session-for all six speakers)
- PPT must **NOT** contain mentor/institution name / teacher name/ school name
- Refer to the rubric when designing your PPT. (SEE APPENDIX A)

Speakers presentation preparation:

- You will present to a panel of judges with some expertise in your field.
- There will be a teacher moderator to keep track of time and manage the Q and A session.
- You will be given 12 minutes of uninterrupted time. The moderator will indicate when 10 minutes have passed and will stop the presentation at 12 minutes.
- Following the presentation, there will be 5 minutes of questions from the judges (Q & A).
 - If you end before the 10 minute mark, the remaining time is lost and cannot be applied to the Q&A session.
- The presenter is expected to repeat the judge's question before answering the question.
- No NEW slides may be used during the Q&A but the speaker may return to a previous slide.
- Questions from the audience (other than judges) will not be permitted.

Awards & Qualification for Upstate JSHS

| WR-JSHS Award | Upstate JSHS qualification |
|--|---|
| 1st & 2nd Place in WRJSHS Regional Speaker Competition (In a typical room of 12 presenters) | Qualified to compete in the PPT Speaker competition in Upstate JSHS at SUNY Albany. This is the qualifying competition for National JSHS. Please refer to the Upstate JSHS website for specific speaker guidelines for the Upstate competition. |
| 3rd & 4th Place in WRJSHS Regional Speaker Competition (In a typical room of 12 presenters) | Qualified to compete in the POSTER competition in Upstate JSHS at SUNY Albany. Upstate poster competitors are not eligible to advance to the National JSHS, but can win awards in the poster category. At Upstate JSHS: Details on presenting at Upstate will be available on the Upstate Jshs website. |
| 5th Place | Alternate to participate in Upstate JSHS if a 1st - 4th place drops out |

NOTE: Within 72 hours after placing at a sub-regional symposium, presenters must submit the following to the Upstate NY JSHS Coordinator via email (jshs@albany.edu). Failure to do so will result in an alternate chosen instead. Please refer to the [Upstate JSHS](#) website for official rules.

- JSHS Research abstracts formatted as a Microsoft Word .doc or .docx
- Research papers in .pdf format (note: research papers will NOT be accepted without the hand-signed Statement of Outside Assistance form).

A schedule for the day of the symposium will be published in early January. The Symposium will begin at 8am, presentations will be completed by 2pm, and the virtual awards ceremony, broadcast through Zoom, will follow later.

WR-JSHS Speaker Session Score Sheet

Judge Name _____

Presenter _____

| Category Criteria | Maximum Score | Score |
|--|---------------|-------|
| Review of Literature <ul style="list-style-type: none"> Background information clear and logical Demonstrates that project is based on prior research Organized in chronological or logical order leading to purpose or rationale | 15 | |
| Statement of Purpose/Hypothesis <ul style="list-style-type: none"> Demonstrates originality in addressing purpose Purpose addresses gap in field/area of research Clearly identifies the hypothesis Statements are clear, concise and thorough | 10 | |
| Methods and Materials <ul style="list-style-type: none"> Demonstrates that student was involved in experimental design Methods are demonstrated effectively through diagrams of flow charts Student demonstrates understanding of experimental design Identifies variables and controls A reproducible protocol is described | 15 | |
| Results, Analysis and Discussion <ul style="list-style-type: none"> Sufficient data presented to address purpose Data and/or observations are clearly presented in labeled tables, graphs, photos, etc. Student demonstrates understanding of results and how the results inform/address the purpose Explanation of results are scientifically sound, logical and well supported by data presented Appropriate statistical analysis applied, student demonstrates understanding of stats Student understands significance and limitations of results/experiment/experimental design | 25 | |
| Conclusions <ul style="list-style-type: none"> Findings are significant and have real world applications Clear, concise statement of findings that are supported by results Conclusions relate to hypothesis or statement of purpose Student discusses and understand significance Student identifies areas for further research based on conclusions | 15 | |
| Quality of Oral Presentations <ul style="list-style-type: none"> Student demonstrates command of his/her work Student demonstrates deep understanding of her/her work Student shows ability to handle questions | 10 | |
| Acknowledgement of Major Assistance <ul style="list-style-type: none"> Acknowledges all direct assistance Acknowledges assistance in selecting topic, planning course of research and gathering data | 10 | |
| Total | 100 | |

Preparing Your Abstract Form

The format for the 250 word abstract includes: 1 inch margins, 12 point font (Times New Roman), with justified alignment. Abstracts must be adequate in length but not exceed these specifications.

The header preceding the abstract body must include:

- **Title of the research (bolded and properly capitalized)**
- Authors' Name(s)
- Include one line of space between the heading and the abstract body

Please carefully proofread your submission. Abstracts will not be retyped or edited. Each of the speaker judges will receive a copy of the abstract form. The abstract should accurately convey the essential nature of the research conducted and the most significant conclusions reached. A further purpose of the abstract is to attract the interest and curiosity of the non-specialist reader and thus encourage exchange, discussion, and elaboration between various authors and between authors and readers.

Content

- What you did, how you did it, what it means, why you did it and what you found.
- Citing of experimentation completed by submission date.
(*Anticipated* experimentation or results *should not* be included.)
- Diagrams, if used, must be drawn in black ink.
- Reference to a specific procedure should be restricted to a description of the process employed.
- State results, conclusions or findings clearly and concisely.
- Credit any financial sponsorship at the end of the abstract: "Research supported by ..."

SAMPLE

Genetic Transformation of Sweet Potato

Jane Einstein

Sweet potato is considered the sixth most important food crop in the world and has high nutritional value for humans. However, pests, diseases and environmental factors prevent the crop from reaching its maximum agricultural potential. Improvement of the sweet potato is highly limited by conventional breeding methods. Recombinant DNA technology offers a means for manipulation of the sweet potato genome to integrate valuable traits. Critical parameters of the electroporation (voltage of current and digestion of cell wall) and particle bombardment (helium pressure and gold particle distribution) were examined for efficient DNA transfer. Electroporation resulted in less damage and higher recovery of tissue after DNA delivery compared to particle bombardment. Transformed cells were identified with two marker genes: Beta-glucuronidase (GUS) and Green Fluorescent Protein (GFP). Cells expressing GFP were easily identified due to uniform protein distribution, and allow the monitoring of the cell development pattern, unlike cells expressing the GUS gene. Using the optimized conditions derived from the present study, sweet potato can be genetically improved for increased crop productivity and nutritional value.