

2012 Science Fair



**Connecticut
Science Fair**

March 13 - 17

CONNECTICUT STATE SCIENCE FAIR
Quinnipiac University

www.ctsciencefair.org

February 2012



Dear Students, Parents, and Teachers/Advisors:

Congratulations on being selected to compete at the Connecticut State Science Fair. Enclosed is the Fair Week Schedule, Display Rules and a map of Quinnipiac University. Projects will be set-up in the Quinnipiac University Recreation Center complex. Project space has been preassigned so you must check-in to get your number. Check-in is 12:30 PM - 7:30 PM, Tuesday, March 13. Parking is available in the lot adjacent to the Recreation Center.

If you are chosen as a Finalist or Special Awards winner your attendance is mandatory.

Finalists- at Judging and Awards- Saturday Morning ; Special Awards Winners- Saturday Morning

Absences for extraordinary circumstances will be considered if the written request is emailed to the Fair Director, director@ctsciencefair.org by no later than 6:00 PM Saturday, March 10.

Electric power will not be available for project operation and commercial equipment is not allowed as part of the display unless you are chosen as a finalist. Additional discussion on these fair procedures is provided in the attached display rules.

If you are unclear on any of the materials and are worried that you might have a problem, key people that will be able to help you are given below:

Registration	Wynn Müller	860-635-1139	registration@ctsciencefair.org
Display Rules and Safety	Bob Harris	203-457-1322	display@ctsciencefair.org

FINALISTS AND SPECIAL AWARD WINNERS ARE POSTED AT www.ctsciencefair.org

Finalists will be posted on the fair's website by 5:00 PM Wednesday. **It is your responsibility to go to our website to see if you are Finalist.** If so you must check-in on CSF website so that we know that you got the word and will be present on Thursday morning. Check-in by 9:00 PM.

Finalist Judging is Thursday from 8:30 AM - 1:15 PM. *You must arrange to be picked up by your parents or teacher at this time.* Luncheon meal tickets will be provided for the Finalists for use in the Student Center Dining Room. There is no program planned- just something to eat before going home. Lunch attendance is optional.

NOTICE- FINALIST AWARDS CEREMONY IS SATURDAY MORNING THIS YEAR!

Finalist Awards Ceremony will be held in the Recreation Center on Saturday from 11:00 AM-1:00 PM. All Finalists are required to attend. You must check-in on our website to confirm your attendance.

Special Award Winners will be posted on our website by 5:00 PM Thursday. **Winners** must confirm through our website that they will be present Saturday 9:00 AM - 10:30 AM for the Special Awards Ceremony.

Project Removal: Thursday 1:15 PM - 8:00 PM, Friday 2:00 PM - 8:00 PM and Saturday 8:30 AM - 1:00 PM for project removal. **Projects remaining after 1:00 PM Saturday will be discarded.**

Awards Ceremonies will be held in the Recreation Center

We look forward to meeting you on registration day. See you at the fair. Good Luck!

For the 2012 Executive Committee

Bob Wisner
Fair Director

Wynn Müller
Registration Chair

For Weather Postponements:
Fair Week Phone: (203) 582-3361
www.ctsciencefair.org
Channel 3 WFSB-TV

Web: www.ctsciencefair.org
Email: director@ctsciencefair.org



CONNECTICUT STATE SCIENCE FAIR
Quinnipiac University

www.ctsciencefair.org



MANDATORY ATTENDANCE

To receive a T-shirt at project setup- 12:30 PM – 7:30 PM, Tuesday, March 13

If you are a Finalist- 8:30 AM – 1:15 PM, Thursday, March 15

If you are a Special Awards Winner- 9:00 AM – 10:30 AM, Saturday, March 17

If you are a Finalist- 11:00 AM – 1:00 PM, Saturday, March 17

If you are selected as a Finalist or Special Awards winner your attendance is mandatory at the functions described above. Failure to attend the Finalist or Special Awards functions will result in disqualification. Exceptions are granted for religious observance and special circumstances.

Exceptions for special circumstances will be considered if the written request is emailed to the Fair Director by no later than 6:00 PM, Saturday, March 10. Email to: director@ctsciencefair.org

Family vacations, previous commitments, and ski trips are **not** considered special circumstances. Religious observations and other major competitions are such circumstances but you must request an excused absence.

**FIND OUT IF YOU ARE A FINALIST OR
SPECIAL AWARDS WINNER
AT**

www.ctsciencefair.org

FINALISTS- After 4:00 PM Wednesday

SPECIAL AWARDS- After 4:00 PM Thursday

If you are a finalist or special award recipient

You must register on our website that you will attend!

www.ctsciencefair.org

For Weather Postponements:
Fair Week Phone: (203) 582-3361
www.ctsciencefair.org
Channel 3 WFSB-TV

Web: www.ctsciencefair.org
Email: director@ctsciencefair.org

CSF Revised Feb. 2012



CONNECTICUT STATE SCIENCE FAIR
Quinnipiac University

www.ctsciencefair.org



February 2012

Dear Parent:

Congratulations on having your child selected to compete in the Connecticut State Science Fair. Please look over the materials that we have supplied and check your child's work. Take time to review your child's display to see if his or her research is adequately described. Review the rules and safety check list and make sure the display is in compliance. Be sure that materials extracted from the work of others has proper citation. This applies to text, charts, drawings, and photos.

All projects should include a report detailing the student's work. An abstract giving a short description of their work should be submitted online through the CSF website by March 1. Prior to the Fair judges begin reviewing the abstracts. First impressions are important!

Project Set-Up 12:30 PM-7:30 PM Tuesday, March 13- In the Quinnipiac University Recreation Center. Your child must check-in at registration in the lobby. Parking is available in the lot adjacent to the recreation center complex.

Those chosen as finalists, (approximately 30 percent of the participants) will be interviewed Thursday by scientists, engineers, and educators. Finalists will be posted on the fair's website (www.ctsciencefair.org) by 5:00 PM Wednesday; Special Award winners will be posted by 5:00 PM Thursday. If selected as a finalist or special award winner your child must verify through our website that they will be present for judging and awards.

Finalist Judging is Thursday 8:30 AM - 1:15 PM. Finalist project numbers will be posted on the fair's website by 5:00 PM Wednesday. If your child is chosen as a finalist, notify his/her school of the absence on Thursday.

Finalist Awards Ceremony: Saturday 11:00 AM - 1:00 PM. **Special Awards Ceremony:** Saturday 9:00 AM - 10:30 AM

Mandatory Attendance: If selected as a Finalist or Special Awards recipient attendance is required Saturday morning at the relevant Awards Ceremony. Excused absence for special circumstances will be considered if the request by 6:00 PM Saturday March 10 at director@ctsciencefair.org

Hospitality Lounge: Thursday, 8:30 AM - 1:00 PM, the Fair will host a hospitality lounge for parents and advisors who need a place to wait during Finalist Judging. It will be in Mancheski Seminar Room in the School of Business adjacent to the Recreation Center. A presentation on the Fair's activities will be presented at approximately 11:00 AM.

Lunch (attendance optional, no program planned) for the finalists, compliments of the fair is available in the Student Dining Room starting at 1:15 PM. Parents and advisors may join the students at their own expense. Parents/advisors should arrange a meeting place after judging. The exhibit hall will open for project removal at 1:15 PM when finalist judging is finished.

The **Special Awards Ceremony** will be held in the Recreation Center Saturday 9:00 AM - 10:30 AM. Special Award Recipients will be posted on our website by 5:00 PM Thursday. Students must check our website to see if they are recipients and need to be present on Saturday.

The Fair is **not** open to the public or school groups this year due to the need to use the exhibit hall for the awards ceremonies.

Project Removal will be Thursday, 1:15 PM - 8:00 PM; Friday, 2:00 PM - 8:00 PM; and Saturday, 8:30 AM - 1:00 PM. **Projects remaining after 1:30 PM on Saturday will be discarded.**

Your child has achieved a major milestone by being selected as a State Fair competitor.

Our best wishes for a rewarding experience.

Bob Wisner
Fair Director
director@ctsciencefair.org

For Weather Postponements:
Fair Week Phone: (203) 582-3361
www.ctsciencefair.org
Channel 3 WFSB-TV

Web: www.ctsciencefair.org
Email: director@ctsciencefair.org

CSF Revised Feb. 2012

Display and Safety Regulations

Not Allowed At Project

1. Living organisms including plants, animals, microbes
2. Taxidermy specimens or parts
3. Preserved vertebrate or invertebrate animals
4. Human or animal food
5. Human/animal parts or body fluids (for example, blood, urine)
6. Plant materials (living, dead, or preserved) which are in their raw unprocessed, or non-manufactured state.
7. Laboratory/household chemicals including water (Exceptions: water integral to an enclosed apparatus; crystals grown by you, displayed in a case, and removed after final judging)
8. All hazardous substances or devices [For example, poisons, drugs, controlled substances, firearms, weapons, ammunition, reloading devices, lasers (as indicated in item 5 in the section of these rules entitled "Allowed at Project BUT with the Restrictions Indicated")]
9. Dry ice or other sublimating solids
10. Sharp items (for example, syringes, needles, pipettes, knives)
11. Flames or highly flammable materials
12. Batteries with open-top cells
13. Awards, medals, business cards, flags, endorsements and/or acknowledgments (graphic or written) unless the item(s) are an integral part of the project
14. Photographs or other visual presentations depicting vertebrate animals in surgical techniques, dissections, necropsies, or other lab procedures
15. Active Internet or e-mail connections as part of displaying or operating the project at the CSF.
16. Prior years' written material or visual depictions on the vertical display board.
17. Overlapping panels on the backboard are not permitted. Supporting detailed information should be contained in a data book or as part of the research report.
18. Glass or glass objects unless deemed by the Display and Safety Committee to be an integral and necessary part of the project (Exception: glass that is an integral part of a commercial product such as a computer screen)
19. Any apparatus deemed unsafe by the Display & Safety Committee (for example, large vacuum tubes or dangerous ray-generating devices, empty tanks that previously contained combustible liquids or gases, pressurized tanks, etc.)

Only Table Top Displays are allowed. Maximum Size of Display

30 in. (76 cm) deep
48 in. (122 cm) wide
78 in. (198 cm) high from table

For Questions Regarding Display Rules

Contact Mr. Bob Harris
e-mail: display@ctsciencefair.org

Allowed at Project BUT with the Restrictions Indicated

1. Photographs and/or visual depictions if:
 - a. They are not deemed offensive or inappropriate by the Display and Safety Committee.
 - b. They have credit lines of origin ("Photograph taken by..." or "Image taken from..."). If all photographs being displayed were taken by the participant or are from the same source, one credit line prominently and vertically displayed is sufficient.
 - c. They are from the Internet, magazines, newspapers, journals, etc., and credit lines are attached. (If all photographs/images are from the same source, one credit prominently and placed on the backboard is sufficient.)
 - d. They are photographs or visual depictions of the participant.
 - e. They are photographs of human subjects for which signed consent forms are at the project or in the booth.
2. Soil, sand, rock and/or waste samples only if permanently encased in a slab of plastic
3. Any apparatus with unshielded belts, pulleys, chains, or moving parts with tension or pinch points may not be operated.
4. Class II lasers if <1mW:
 - a) May be operated only by the fair participant.
 - b) May be operated only during finalist judging.
 - c) Labeled with a sign reading "**Laser Radiation: Do Not Stare Into Beam**"
 - d) Must have protective housing that prevents physical and visual access to beam.
 - e) Must be disconnected when not operating.
5. Class III and IV lasers may not be operated.
6. Any apparatus producing temperatures that will cause physical burns must be adequately insulated.

Electrical Regulations

1. Bare wire and exposed knife switches may be used only in circuits of 12 volts or less.
2. All electrical connectors, wiring, switches, extension cords, fuses, etc. in high voltage circuits (over 12 volts) must be UL-listed and must be appropriate for the load and equipment. Connections must be soldered or made with UL-listed connectors. Wiring, switches, and metal parts must have adequate insulation and overcurrent safety devices (such as fuses) and must be inaccessible to anyone but the fair participant. Exposed electrical equipment or metal that is liable to be energized must be grounded or shielded with a grounded metal box or cage to prevent accidental contact. There must be an accessible, clearly visible on/off switch or other means of disconnect from the power source. Maximums are 500 watts @120 volts A.C. / 60 Hertz.
3. Finalists requiring 120 volt A.C. electrical power must provide a UL-listed 3-wire extension cord which is appropriate for the load and equipment.

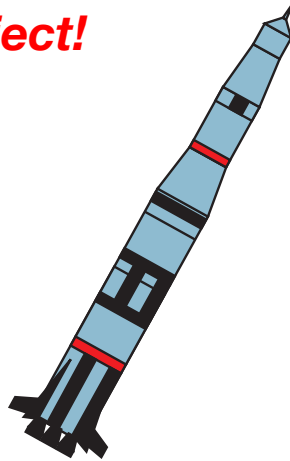
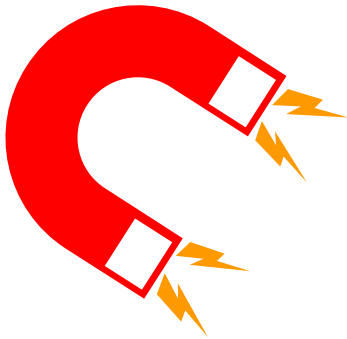
MAGICAL, BUT REAL SCIENCE!

Physics Demonstrations

by Bob Erickson & George Vartenigian

*See The Demonstrations
After You Set-Up Your Project!*

Demos "R" Us



Tuesday, March 12, 2012
During Set-Up Hours
Exhibit Hall
Quinnipiac University

In the physical world some things that happen often appear to be magical. Science provides the explanations-- there is no magic but a puzzle that keeps scientists busy understanding. Physics experiments in electricity, magnetism, heat, light, and mechanics experiments are amazing to see, but the fun is in understanding. Join Mr. Erickson and Mr. Vartenigian and see the sometimes hard to believe science in action. This "minds-on" show will challenge you and perhaps give you ideas for experiments of your own!



Robert V. Erickson spent his career assisting students in experimental procedures in the physics laboratories of the University of Connecticut. George Vartenigian, is a retired physics teacher from Norwich Free Academy. From their many years of physics teaching experience, Bob and George have picked their favorite demonstrations to produce an exciting one hour science adventure for middle and high school audiences.

Connecticut Science Fair
64th Anniversary Year Event

www.ctsciencefair.org

2012 Connecticut Science Fair Schools and Fairs

Avon Talcott Mountain Academy	Green Farms Green Farm Academy	New London Science & Technology Magnet High School	Trumbull Christian Heritage School St. Catherine of Siena School
Bethel Bethel High School Bethel Middle School St. Mary School	Greenwich Brunswick School Convent of the Sacred Heart School Eastern Middle School Greenwich Academy Greenwich High School	New Milford New Milford High School	Watertown The Taft School
Bozrah Fields Memorial School	Groton Sacred Heart School	Newington St. Mary School	West Hartford American School for the Deaf Solomon Schechter Day School St. Brigid School St. Timothy Middle School
Brewster Brewster High School	Guilford E. C. Adams Middle School Guilford High School	Newtown Newtown Middle School St. Rose of Lima School	Westbrook Westbrook Middle School
Bridgeport Bassick High School Bridgeport Aquaculture School Bridgeport Hope School Bridgeport City Science Fair Central High School Central Magnet High School Cesar A. Batallia School Geraldine W. Johnson School High Horizons Magnet School John Winthrop School Park City Magnet School Park City Prep Charter School Thurgood Marshall Middle School Warren Harding High School	Hamden Hamden High School Hamden Middle School Sacred heart Academy	Norwalk All Saints Catholic School Brien McMahon High School Nathan Hale Middle School Norwalk High School Norwalk Public Schools Fair Ponus Ridge Middle School Roton Middle School The Montessori Middle School West Rocks Middle School	Weston Weston High School
Brookfield St. Joseph School	Hartford Academy of Aerospace and Engineering Classical Magnet School Greater Hartford Academy of Math & Science Hartford Magnet Trinity College Academy SS. Cyril and Methodius School	Norwich Norwich Free Academy	Westport Avdiu Home School Bedford Middle School Coleytown Middle School Southern CT Invitational Science & Engineering Fair Staples High School
Cheshire St. Bridget School	Hebron Oei Home School RHAM High School	Old Saybrook Old Saybrook Middle School	Wilton Middlebrook Middle School
Danbury Danbury High School Immaculate High School Science Horizons Regional Science Fair St. Joseph School St. Peter/Sacred Heart Upper School	Kensington St. Paul School	Orange Southern CT Hebrew Academy	Windsor Madina Academy St. Gabriel School
Darien Darien High School	Madison Daniel Hand High School Our Lady of Mercy School Walter C. Polson Middle School	Oxford Oxford High School	Woodbridge Amity Regional High School
East Granby East Granby Middle School	Manchester East Catholic High School St. Bridget School	Pawcatuck St. Michael School	
East Hartford Connecticut International Baccalaureate Academy East Hartford High School	Middlebury Memorial Middle School	Plantsville John F. Kennedy Middle School	Regional & City Fairs Bridgeport City Science Fair Norwalk Public Schools Fair Science Horizons, Inc. - Western CT & Brewster, N.Y. Southern CT Invitational Science & Engineering Fair
Fairfield Fairfield College Preparatory School Fairfield Warde High School Our Lady of Assumption School St. Thomas Aquinas Catholic School	Middletown Xavier High School	Putnam Putnam Science Academy	
Fishers Island Fishers Island	Milford St. Gabriel School	Redding Joel Barlow High School	
Forestville St. Matthew School	New Britain Sacred Heart School	Ridgefield East Ridge Middle School	
Glastonbury Glastonbury High School Smith Middle School	New Hartford Montessori Middle at Millstream Farm	Sandy Hook Newtown High School	
	New Haven Betsy Ross Arts Magnet School Cooperative Arts & Humanities High School Hopkins School Wilbur Cross High School Worthington Hooker Middle School	Shelton Shelton High School	
		Southington Joseph A. DePaolo Middle School St. Thomas School	
		Stafford Springs St. Edward School	
		Stamford Academy of Information Technology & Engineering Stamford High School Trailblazers Academy	
		Storrs E. O. Smith High School	
		Stratford Henry B. Flood Middle School St. Mark School	

2012 Fair Statistics

122 Schools
490 Projects
252 Middle School
238 High School
629 Students
361 Female
268 Male

64th Connecticut State Science Fair

Fair Week Events

March 13 - 17, 2012

Quinnipiac University, Hamden
Open to students grades 7 through 12



Rewarding Young Innovators

Tuesday, March 13

12:30 pm - 7:30 pm
Noon - 6:00 pm
12:30 pm - 6:30 pm

1:00 pm - 5:00 pm

Project Check-In/Set-Up- Gymnasium/Recreation Center
The United Illuminating Company Chevy Volt in Parking Lot
Urban School Challenge- Prel. Judging Interviews during
Project Check-In (Schools & Students Notified in Advance)
Science Demonstrations in Exhibit Hall

Wednesday, March 14 (Exhibitors not admitted)

7:30 am to 8:45 am
8:45 am to 9:00 am
9:00 am to 2:00 pm
11:30 am to 12:30 pm
5:00 pm

Judges Continental Breakfast
Judges Briefing
Preliminary & Special Awards Judging
Judges Luncheon- Dance Studio, 2nd floor Recreation Center
Finalists names posted on Web

Thursday, March 15

7:30 am to 8:30 am
8:30 am to 8:45 am
8:30 am to 9:00 am
9:00 am to 1:15 pm
11:30 am to 1:30 pm
1:15 pm to 2:15 pm
8:30 am to 1:00 pm
11:00 am to 11:30 am
1:15 pm to 8:00 pm
5:00 pm

Judges Continental Breakfast
Judges Briefing
Finalist Check-In
Finalist Judging
Judges Luncheon
Finalist Lunch- No Program (Finalists may leave after judging.)
Parents/Advisors Hospitality Suite-Mancheski Seminar Rm., Sch. of Bus.
Parents Briefing by CSF Staff
Project Pickup
Awards Winners names posted on CSF Web page

Friday, March 16

2:00 pm to 8 pm

Exhibit Hall Closed to change over for Awards Ceremonies
Project Pickup (In Lobby)

Saturday, March 17

8:30 am to 1:00 pm
9:00 am to 10:30 am
11:00 am to 1:00 pm

Project Pickup (In Lobby)
Special Awards Ceremony
Finalist Awards Ceremony

Parking- Use main entrance of campus on Mount Carmel Ave. Park in lot near Recreation Center.

Directions to Quinnipiac University: <http://www.quinnipiac.edu/about/visiting-quinnipiac/getting-to-campus>



Registration Questions: 860-635-1139 • Email: registration@ctsciencefair.org

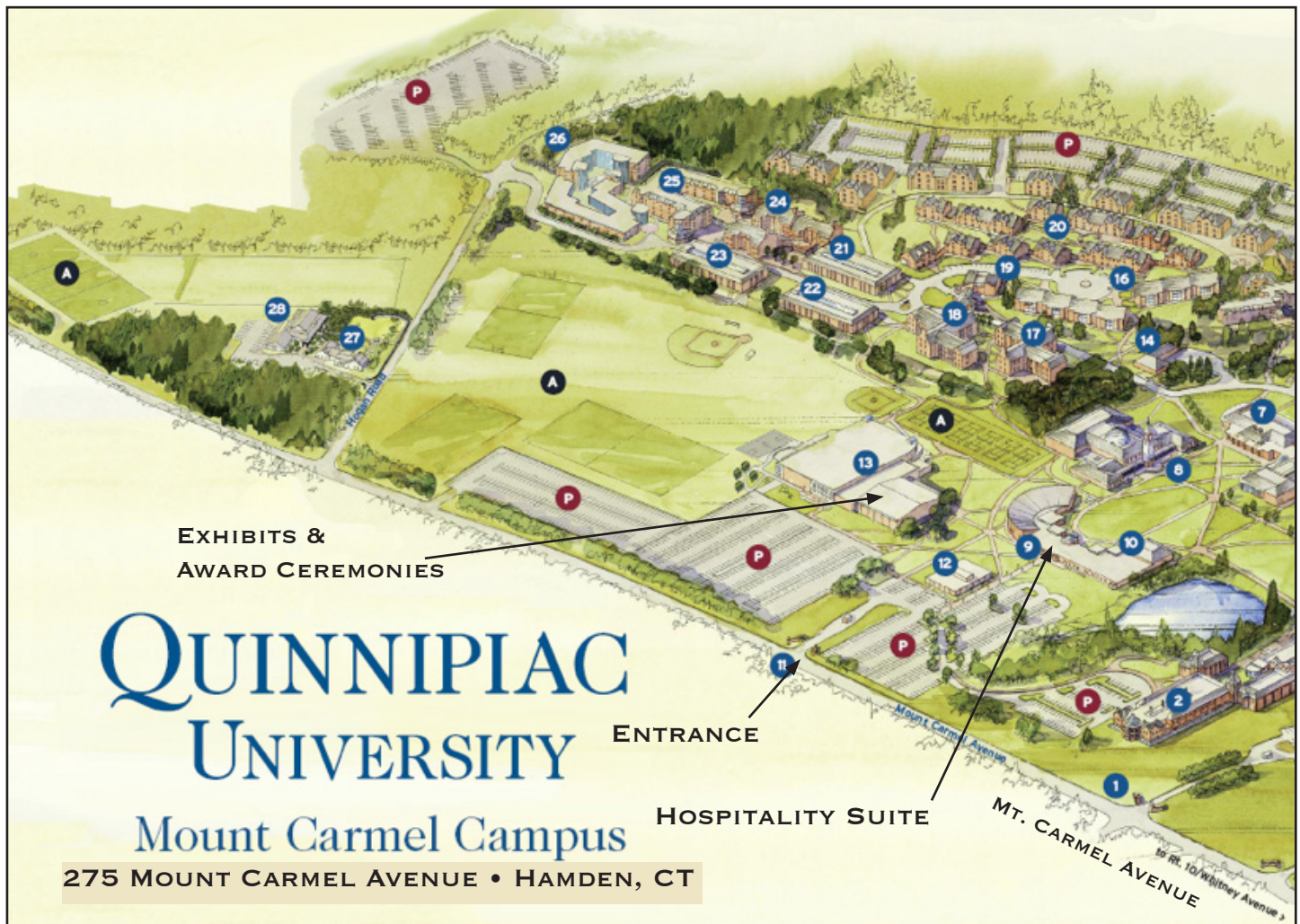
Fair Week Phone 203-582-3361

Fair Director: email: director@ctsciencefair.org

www.ctsciencefair.org

The Connecticut State Science Fair is an affiliate fair of the
Intel International Science and Engineering Fair
Program of the Society for Science & the Public
www.societyforscience.org





From Providence and east

Take I-95 to New Haven. Then take I-91 North to Exit 10 (Route 40). Follow Route 40 approximately three miles to its end (at Whitney Avenue). Turn right onto Whitney Avenue (Route 10) and proceed north for 1.4 miles. Turn right onto Mount Carmel Avenue and go 0.3 miles to campus.

From New York City and west

Take I-95 to New Haven. Then take I-91 North to Exit 10 (Route 40). Follow Route 40 approximately 3 miles to its end (at Whitney Avenue). Turn right onto Whitney Avenue (Route 10) and proceed north for 1.4 miles. Turn right onto Mount Carmel Avenue and go 0.3 miles to campus.

Alternately, you may take the Wilbur Cross (Merritt) Parkway (Route 15) to Exit 61. Turn right onto Whitney Avenue (Route 10) and proceed north 3 miles to Mount Carmel Avenue. Turn right onto Mount Carmel Avenue and go 0.3 miles to campus..

From Hartford and east

Take the Merritt Parkway (Route 15) to Exit 62. Turn right onto Whitney Avenue (Route 10) and proceed north 3 miles to Mount Carmel Avenue. Turn right onto Mount Carmel Avenue and go 0.3 miles to campus.

From Northern New Jersey

Follow Route 287 over Tappan Zee Bridge to Exit 8. Follow Route 287 to Merritt Parkway (Exit 9N). Take the Parkway (Route 15) to Exit 61. Turn right onto Whitney Avenue (Route 10) and proceed north 3 miles to Mount Carmel Avenue. Turn right onto Mount Carmel Avenue and go 0.3 miles to campus.

From Hartford, Boston, and Upper New England

Take I-91 South to Exit 10 (Route 40). Follow Route 40 approximately 3 miles to its end (at Whitney Avenue). Turn right onto Whitney Avenue (Route 10) and proceed north for 1.4 miles. Turn right onto Mount Carmel Avenue and go 0.3 miles to campus.

From western Connecticut and upper New York State

Take I-84 to Exit 26. At end of exit, bear right on Route 70 toward Cheshire. Continue on Route 70 to Route 10. Turn right on Route 10 and go about 7 miles to Mount Carmel Avenue. Turn left onto Mount Carmel Avenue and go 0.3 miles to campus.