

# Framework to Develop a Science/Engineering Career Awareness Conference

Central MA STEM Network

Funded through the Massachusetts Department of Higher Education's STEM Pipeline Fund

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Developed by the Regional Science Resource Center at the University of Massachusetts Medical School and the EcoTarium

for the Central MA STEM Pipeline Network

Funded through the Massachusetts Department of Higher Education's STEM Pipeline Fund

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Regional Science Resource Center

# Goals & Objectives

## Goals

- Expose middle school students to careers in science and engineering
- Create an opportunity for students to converse with local professionals who engage in science/engineering through their careers
- Inspire middle school students to do their best in school
- Introduce middle school students to a professional environment

## Objectives

- Provide workshops for middle school students to use science/engineering skills in a real world setting
- Provide opportunity for informal conversation with diverse role models
- Provide an inspirational keynote speaker who faced and overcame life experiences, challenges and obstacles
- Provide a setting that is professional and welcoming

# Philosophy

We believe that middle school students should be exposed to STEM career opportunities and meet adults in the STEM professions at this critical point in their education when many life decisions are made. This opportunity should be engaging, fun and connect the world of work to the world of the middle school student.

# Timeline

## 6 Months Out

### Partnership Developments

- Identify partners and secure commitment.
- Contact schools for collaborative agreement.
- Develop a budget.

### Logistics

- Select date and a snow date (if necessary).
- Book meeting space.

## 3 Months Out

### Logistics

- Follow up on date and meeting space.
- Decide on the day's format.
- Decide who will represent partners and attend planning meetings and who will be responsible for getting work done.
- Decide if and what the conference will have as takeaways for the participants (tote bags, bracelets, etc.).

### Presenter Components

- Recruit presenters.
- Recruit keynote speaker.
- Define presentation focus of the presenter/keynote.
- Write a speaker/presenter request letter.

### Teacher Components

- Recruit teacher liaisons.
- Define role of teacher liaison.
- Write a teacher liaison request letter.

### Student Components

- Decide on the number of students to invite.

## **2 Months Out**

### **Logistics**

- Develop registration form and description of workshops.
- Plan menu for luncheon.
- Order participant takeaways (rulers, bracelets, and tote bags).

### **Teacher Components**

- Send letter asking teachers to recruit interested students.
- Hand out registration forms to students to complete and return.

## **1 Month Out**

### **Logistics**

- Confirm facilities.
- Order catering.
- Order buses/organize student transportation.
- Design program.
- Recruit extra staff/volunteers to help on day of the conference.

### **Teacher Components**

- Collect registration forms from students via the teachers.

### **Presenter Components**

- Begin collecting RSVPs from presenters and compiling results in a spreadsheet.

### **Student Components**

- Develop Access database.
- Begin entering student registrations.

## **2 Weeks out**

### **Logistics**

- Map workshop locations in facility, based on needs reported on presenters' RSVP information sheets.
- Complete program and send to printer.
- Prepare evaluation forms.

## **Teacher Components**

- Contact teacher liaisons about logistics of the day.
- Send teacher list of students for spell check.

## **Student Components**

- Enter all student information into database.
- Use information for badges, schedule, and certificates of achievement.

## **1 Week out**

### **Logistics**

- Print out name badges.
- Confirm with presenters, catering, facilities, etc.
- Deliver name tags and bags to schools.
- Double-check caterer and give final head count.
- Coordinators meet to discuss scheduling for the day.

### **Presenter Components**

- Confirm that you have all supplies requested by presenter.

### **Teacher Components**

- Deliver nametags and bags to school.

## **Last Two Days Before and Day of Conference**

### **Logistics**

- Set-up workshops for presenters.
- Final instructions to staff.
- Confirm extra staff/volunteers.

### **Presenter Components**

- Set up registration table.
- Set out coffee/pastry.
- Compile bags for presenters, including evaluation forms, maps, schedules and stipend.

### **Student Components**

- Souvenirs for the day
- Evaluation forms

### **Teacher Components**

- Evaluation form and stipend
- Certificates for students

### **After the Conference**

- Send out thank you notes to presenters and funders.
- Hold final debrief meeting.

# 6 Months Out

## Partnership Developments

- Identify partners
  - Potential partners include local science organizations (higher education, museums, associations, K-12 schools, businesses).
  - Once partners are identified, meetings can be planned to discuss the goals of the conference and the contributions/needs of each of the partners.
  - Decide who will represent partners, attend planning meetings and who responsible for specific tasks.
  - Determine what schools will be sending students to the conference.
- Identify funders for long term sustainability to invite to the Conference.
  - Local STEM businesses (perhaps organizations where presenters are employed)
  - Women's Groups (women's professional organizations, YWCA, women-related initiatives)
  - Science-related associations, ex. Women in Engineering
  - Local Foundations—coordinate with institution's development office
  - Local benefactors and service organizations (Rotary Club, Lions Club, etc.)
  - Businesses who sell to STEM businesses
- Develop a budget (Appendix A)
  - The budget includes pricing out the day for facility rental space (usually in kind from partners), personnel time, caterers, souvenirs for the students, supplies, bus charges and presenter and teacher stipends.
- Developing Financial support
  - In selecting funders to work with, organizers:
    - Want to engage with funders who are likely to work with you on the conference over a number of years and then go in to a funding relationship with the attitude that you are going to build that relationship with them over time (if you don't, then each year you will have to go after new money and your opportunities for funding will decrease over time).
    - To build a relationship, invite funders to participate in the conference (particularly if they are a STEM business), or attend the conference.
    - Be wary of the sponsor's needs regarding publicizing their sponsorship – not all sponsors want to be recognized in materials or souvenirs (some can get pretty angry if their

wishes are ignored) – conversely, others may have very specific requirements about how they are to be recognized.

- Make sure if the funder requires evaluation data that you can actually comply with their request (for example, some we have tried to access have asked for “proof” that the girls change their career choices based on the conference – there is no way we can provide that kind of proof; also, you don’t want to promise a funder anything that provides identifying information on the girls, because you legally can’t provide it).
- Make sure you understand and take into account funders reporting requirements before the conference – if they require feedback from teachers, and you only found out after the conference, you’ve got a problem.

## **Logistics**

- Select date and a snow date (if necessary).
  - We have always used a Saturday; it is easier to get presenters and it does not interfere with school requirements.
  - Check school calendar before selecting a date.
    - Considerations:
      - Vacation
      - Early release days (Do not plan an event when the Friday before is a teacher professional development day. Communication to teachers and to students is especially important the day before.)
      - Holidays
      - Events at host institution
- Book meeting space
  - Auditorium (or similar space that would accommodate all participants, teacher liaisons, presenters and staff) for framing the day, opening and closing activities, and keynote address
  - Space for 12 individual workshops (may be classrooms, open space, etc.)
    - Rooms or space should have two 8 ft. tables with 12-15 chairs or equivalent
    - Some workshops may need:
      - Electricity
      - Water supply
      - Chalk boards or flip charts
  - Room with tables/chairs for luncheon to accommodate all conference goers
    - Table set up should encourage conversation.
      - Round tables for 6-10 people

# 3 Months Out

## Logistics

- Decide on the day's format/timeline of day
  - Frame the day with the whole group
    - The purpose is to set the tone and purpose of the day (20-30 minutes)
    - May include an opening activity
      - Group activity
      - Group survey (Appendix B)
      - Short video of women in science
      - Short play or game, etc.
  - Workshops: Each student will rotate to three different workshops that last about 35 or 40 minutes (5 minutes between each workshop)
    - 12 – 15 students/workshop
  - Luncheon
    - Keep luncheon short, around 45 minutes
  - Keynote Address
    - 45 minutes with time for questions and answers
    - Suggest a PowerPoint with pictures
  - Closing Group Activity
    - Have participants grouped by schools make a banner reflecting on their experiences of the day. It is a great way to extend the conference day.
      - Take banner back to school showcasing the event and to advertise for the following year.
      - Portions of banner may be reproduced professionally to advertise the conference to potential funders.
    - Timing of this activity may be a great way to stretch or shorten depending on the Q&A of the keynote and other time variable parts of the day
- Budget check for ordering bracelets, rulers, and tote bags
  - Determine what you want to give for souvenirs.
    - Keep in mind girls/boys likes and dislikes.
      - Get feedback as to what middle school girls/boys like.
      - For instance one year we had hats, and the girls did not like that.
      - Another idea that we have done in the past is given out t-shirts to the participants.
  - Confirm what to print on each souvenir.
    - For instance, we have a Women in Science symbol that appears on all merchandise for the event.
    - Also included on merchandise are logos of each partner organization and sponsors.
    - Check with each participating institution to use formal logo

# 3 Months Out

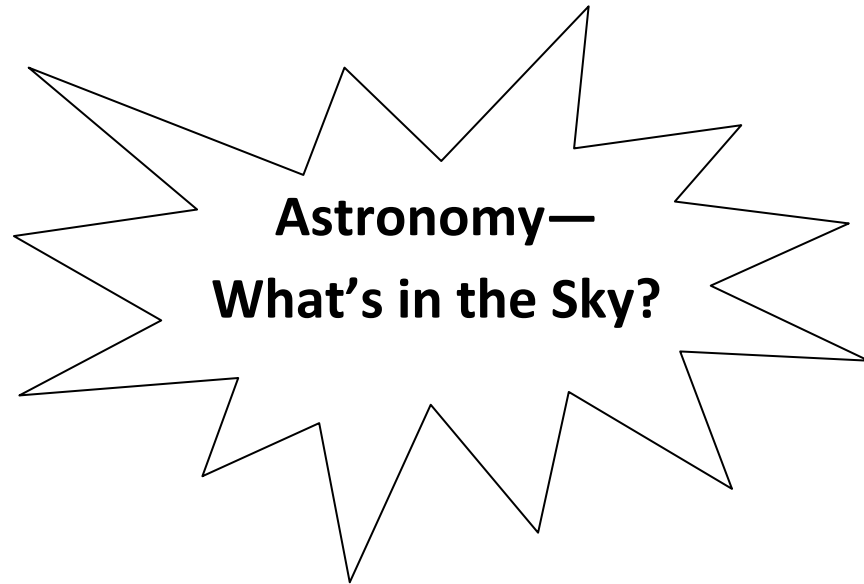
## Presenter Components

- Decide who you want for presenters.
  - High quality, dynamic presenters will:
    - Actively engage the students with a fun interactive science/engineering activity that reflects his/her career.
    - Provide insight on what it is like to work in his/her career field.
    - Effectively manage the 35-40 minutes of the workshop.
  - Teams of presenters work well for several reasons.
    - Easier to manage and engage participants in interactive workshop.
    - Less intimidating for the presenter and more fun to work as a team.
    - Demonstrate the teamwork necessary in a STEM career field.
  - Criteria for selecting specific content represented by the presenters include a balance between what students will enjoy and what the workforce needs.
  - May want to include careers in STEM that have a high demand in Central MA.
    - The STEM Network will provide those career fields by September.
  - Be sure to include a variety of careers and have cross-cultural representation.
    - Careers showcased in the past
      - Chemist
      - Physician
      - Nurse
      - Veterinarian
      - Marine Biologist
      - Criminologist
      - Engineer
      - Astronomer
      - Environmentalist
      - Science Teacher
- Recruit Presenters
  - Personal contact is best way to develop relationships.
    - Referrals are a good way to get presenters.
    - Communicating via phone or in person is the best way to start relationships.
  - Explain goals and purpose of the day.
    - This needs to be made explicit so all presenters carry the same message.
  - Duties include:

- Lead three workshops for students (Same materials three times with different participants each time.)
  - Be a good role model for the chosen profession.
  - Attend luncheon. (This has been negotiable. It is most important to have them spend the morning. They are all invited to the luncheon, but not mandatory.)
  - Act as table host during luncheon.
- Brainstorm and decide keynote speaker to invite. (Have back up person in case)
  - Speaker should be someone who is dynamic and has an inspiring story to tell.
    - Since the Conference has been for Worcester Public Schools students, (over 50% of the students are Hispanic or African-Americans) we have deliberately invited underrepresented, minority women to be keynote speakers. Many of the keynote speakers have come from backgrounds similar to the students and that provides a powerful connection for the students.
- Recruit keynote speaker
  - Personal connection is very helpful in getting keynote speaker.
  - Duties include:
    - Attend luncheon. (not mandatory, but nice if possible)
    - Deliver keynote address.
    - Speaker should be able to be prepared to answer questions.
      - These questions may range anywhere from:
        - Where did you grow up?
        - Did you have a boyfriend at my age?
        - What was most difficult for you when you were my age?
        - Who most inspired you to work in your chosen field?
        - What obstacles did you face on the path to your current career?
        - What is the most fun/least fun about your job?
- Write a speaker/presenter request letter. (Appendix C)
  - Partner(s) collaborate with presenters to develop ideas for workshop sessions and keynote address.
  - Communicate stipend/honorarium availability to presenters and keynote speakers, respectively.
    - If two presenters work simultaneously in one workshop, they split the stipend.
  - Develop a reference sheet of tips on how to present to this audience and guidelines for what is appropriate for this age group. (Appendix D)
  - Develop a questionnaire for presenters. (Appendix E)
    - Include name, title, and affiliation— for use on program.
    - Description of workshops they wish to present.

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- Create “tagline” (Tagline briefly describes the workshop and is understandable by middle school students)
  - Specific supplies needed
  - Specific A/V presentation materials needed
- Request RSVP with answered questionnaire returned by one month before conference.



# 3 Months Out

## Teacher Components

- Decide who would make a good teacher liaison.
  - Work with schools to determine who will be best for the task.
    - Might consider science/engineering interest level, availability, rapport with students, and follow through capability.
  
- Recruit middle school teacher liaisons
  - Duties include:
    - Advertising event
    - Obtaining permission slips and photo releases of attendees
    - Helping registrants select workshops
    - Accompanying students to event on bus
    - Ensuring that students who register attend
      - Make sure all students understand their commitment to attend.
      - If they register and don't show up, they are taking the opportunity away from another student.
      - Teacher may want to have a wait list in place for last minute cancellations.
  
- Write a teacher liaison request letter. (Appendix F)
  - Face to face meeting is best way to explain conference to teachers for first meeting.
    - This allows you to get feedback about middle school students interests and answers questions.
    - It is important to keep teachers in the information loop.
      - Email is very effective in keeping in touch with ongoing information.
        - Make sure you get the active email address for a teacher. (Often the school email is not used frequently.)

# 3 Months Out

## Student Components

- Decide on number of students to invite. (We invite 150.)
  - Consider the maximum number facility will hold.
  - Consider number of presenters.
  - Consider the budget.
  - Schools determine which students will attend.
    - What might schools base their selection on?
      - First-come, first-serve when handing in registration forms
      - Lottery
      - Handpicked or invited by teacher
      - Whole school vs. class specific
      - Any other ideas that partners/school decide
  - Have a plan to ensure that those who register actually attend.

# 2 Months Out

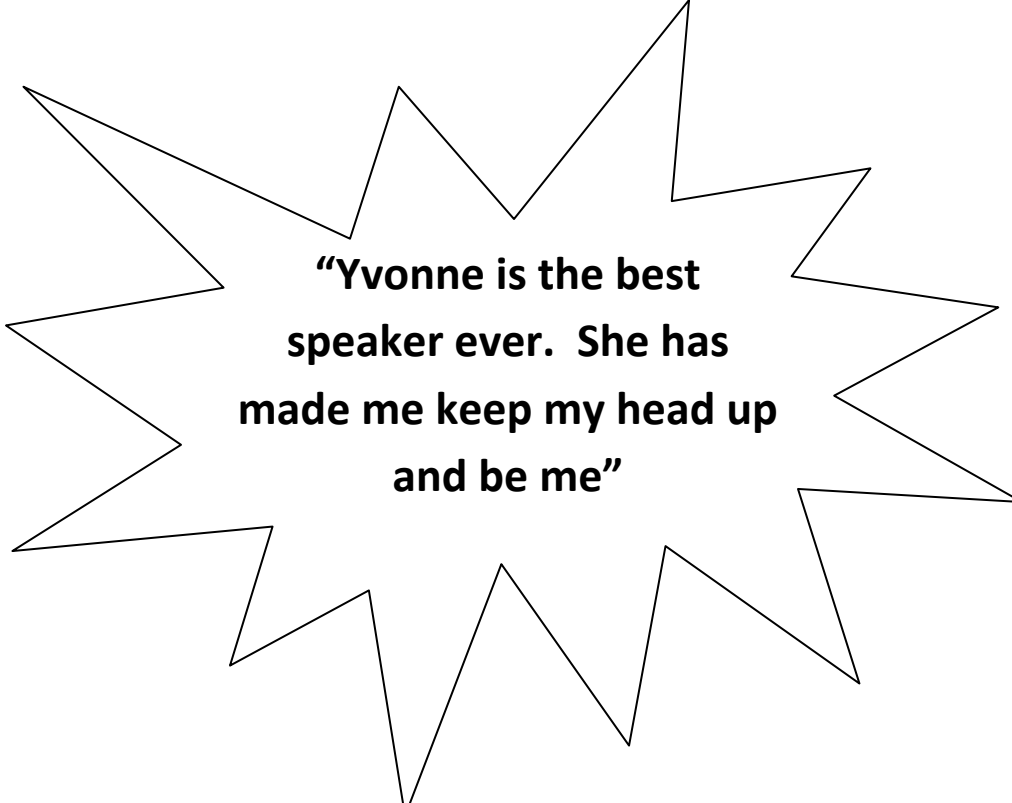
## Logistics

- Develop registration form with description of workshops. (Appendix G)
  - Description of workshops include a title and “tagline” explaining the workshop
    - Often students do not know what the job title really means without a description that is middle school student-friendly and appealing.
  - Include a photo release statement for parent signature with registration form. (Appendix G)
    - Your institution may already have one that you need to use.
    - This allows you to know who can/can’t have pictures taken for the day.
    - Devise a way to mark nametags of the “no photos”.
      - For instance, this year we put a small black dot on the corner of the nametag indicating those who were “no photo” students.
- Arrange for conference space needs, i.e., a/v, electrical, number of tables, number of chairs, etc. for each part of the day.
- Plan menu for luncheon
  - Spending a lot of money on a fancy lunch isn’t the best idea. Keep the meal choice simple and remember presentation is everything.
  - Having the meal served is better than a buffet for managing crowd control, limiting confusion, and allowing for more time to talk with tablemates.
  - Our sample menu includes:
    - Salad
    - Baked ziti
    - Cookies
    - Soda or lemonade in pitchers
      - We find this takes less time than having the staff fill each individual glass.
  - Presentation is important – have waiters/waitresses, stemmed glassware, flowers, cloth tablecloths.
    - The students feel special when they see the table decorated like a fancy restaurant complete with flowers.
    - The connection is that a professional career does have its perks!
  - Order rulers, bracelets, tote bags to give as souvenirs to students, presenters, teachers who participate. (Appendix H) Order extra to send to partners and funders involved in the conference.
    - This is also listed in the “one month out” section. It depends on how long it takes to order your souvenir.

# 2 Months Out

## Presenter Components

- Continue to secure all presenters for the day.
  - May take several conversations either by phone or email.
- Begin taking RSVPs from presenters.
  - Organize the responses in an Excel spreadsheet to easily keep track of the supplies you need to order and how many presenters will attend each portion of the day.
- Partner(s) collaborate with presenters to develop ideas for workshop sessions and keynote address.
- Ask presenters to confirm any guests they may bring.
  - Some of these tasks may be performed between 1-2 months from the conference.



**“Yvonne is the best speaker ever. She has made me keep my head up and be me”**

# 2 Months Out

## Teacher Components

- Once the teacher liaison is established, send a letter describing the details of the conference, expectations and deadlines for returning completed registration forms and photo permissions. (Appendix I)
- Hand deliver registration forms to schools at least six weeks out.
  - Have students fill out registration forms.
    - Communicate to students that the name on the registration form will be used for a nametag, so they print legibly.
      - Students will select 4 workshops (1 for 1<sup>st</sup> choice, etc.)
      - Students will get at least 2, possibly 3, of their 4 choices.
- Have registration due date 4 weeks prior to the conference
  - Either pick up forms at a central location, have teachers drop forms off to you, or if there is a time constraint, have the teachers fax them to you.
    - This step often takes several reminders with the teachers.

# 1 Month Out

## Logistics

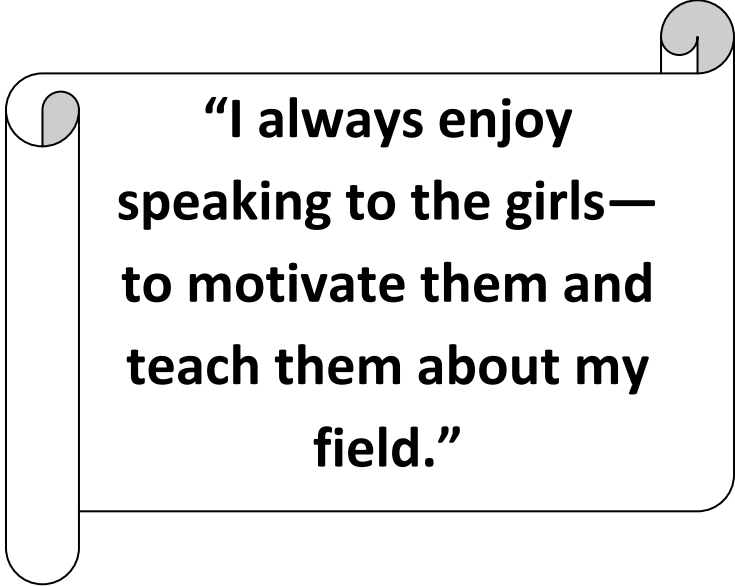
- Begin designing program. (Appendix J)
  - It is best to have a layout ready and input names of presenters and workshops as they come in.
- Confirm facilities: A/V, electricity, overhead, computer hook-up, etc.
- Reserve buses and confirm times for student pick-up at various locations and times. (Appendix H)
- Partners may send letters to administration/leadership inviting them to the conference. (Appendix K) It is important to keep administration aware of this work.
- Map locations of workshops in facility (Appendix L)
  - Use presenters' RSVP information to determine which location best suits the workshop each presenter will deliver.
    - For example, one workshop might require running water; another might need space that can be darkened and another might need electricity.
- Select the color-coded symbols for all workshops. A symbol will designate the specific workshop on maps and badges
  - The color-coded symbol is used so that students will easily know where to go by matching the symbol on their badges to the symbol of a workshop location. They attend the sessions they are scheduled for and do not simply choose to go to whatever sessions sound interesting. This assures that the workshops have between 10-15 girls per session. We guarantee that the girls will get at least two of their selections on their registration forms. Obviously, in the most popular sessions, only the girls who selected them as their first choices will likely be assigned to them.
- Order catering based on approximate number. (Give final number closer to date.) (Appendix H)
  - Catering for light continental breakfast for presenters and lunch for everyone.
- Develop press release – one page description of talk (Appendix M)
  - Send out press release via institution's Public Relations Office
  - Assign staff to photograph day of conference to capture moments from the day.

- Designate a person to be in charge of any media representatives who come to the conference.
- Order rulers, bracelets, tote bags to give as souvenirs to students, presenters, teachers that participate. (Appendix H)
  - Order extra to send to partners and funders involved in the conference
    - This is also listed in the “two month out” section. It depends on how long it takes to order your souvenir.

# 1 Month Out

## Presenter Components

- Continue taking presenter RSVPs and information.
- Ask presenters if they will need extra help
  - Recruit volunteers for the day who can lend an extra hand to help perform tasks during the day
    - These tasks include:
      - Greeters at registration desk.
      - Helpers to carry presenters' materials to workshop space.
      - Announcers to go to each workshop location 2 minutes prior to the end of the session to announce the session's conclusion if there is no central PA system.
      - Directors to help students move from one workshop to another.
- Presenter possible needs
  - Extra tables, chairs, microscopes, video equipment, projectors, paper, pencils, clean-up supplies, etc.



**“I always enjoy speaking to the girls—to motivate them and teach them about my field.”**

# 1 Month Out

## Teacher Components

- Delegate someone to pick up registration forms from the teachers on a specified date.
  - This makes it easier for teachers and the partners. The registration/photo release information may be inputted into the computer without waiting the forms to trickle in from the schools.
  - Assigning student workshop choices can be time consuming and data entry needs to be completed before other tasks can be done.
- Remind teachers to keep a waiting list of their students in case of any last-minute cancellations.

# 1 Month Out

## Student Components

- Develop an Access database.
  - The database is a way to capture the data from registration forms and match student requests to workshops.
    - Once all the data is entered, run a query for each workshop to see where the interest lies for the workshops. The goal is to have an even distribution of students (10-15) across all sessions of all workshops.
      - You may need to move students either to a different time slot or the 4<sup>th</sup> choice to balance out the number of students in each workshop.
      - All students are able to get at least 2 of their 4 choices for workshops.
      - Add column of “no photo” and try to arrange students who are “no photos” in the same workshops.
        - It is important to have parental photo releases for participants to use their pictures at the Conference to advertise and report on the day.
        - However, some parents will not give that permission and it is important to take precaution to ensure those students are not in photos.
        - By arranging “no photos” in certain workshops at certain times, it is easier to manage the taking of photo and exclude the “no photo” students.

# 2 Weeks Out

## Logistics

- Confirm number of attendees and room set-up to facility.
- Map locations of workshops in facility.
- Finalize program and send to printer. (Appendix J)
- Designate phone numbers for teacher liaisons, presenters, and staff to call in case of a cancellation/emergency.
- Complete paperwork for stipends (teacher liaisons, presenters, keynote speaker) to give out on the day of the conference.
- Prepare evaluation form for students, teacher liaisons, and presenters and make copies. (Appendix N)
- Confirm bus reservations.
  - Review bus pick up times and locations.

## 2 Weeks Out

### Presenter Components

- Continue to check with presenters to see if there are any changes or if they need additional resources.



# 2 Weeks Out

## Teacher Components

- Once participant names are entered into the database, email the list to teacher liaisons to have them double-check the spelling of names.
  - It is less time consuming to do it at this point as opposed to redoing Certificates of Participation with incorrectly spelled names.
- Contact teacher liaisons with bus schedule, pick-up location, and time. (Appendix O)

# 2 Weeks Out

## Student Components

- Once all student names are entered in the data base, send list to teachers verifying spelling of names
  - Start to organize the sessions each student will attend in the Access database.
    - This is done manually by trial and error and may take many run-throughs to make sure students get at least 2 of their top four workshop choices.
      - The goal is to have an even as possible distribution across all workshops.

# 1 Week Out

## Logistics

- RSVP to caterer and/or luncheon facility with final head count.
  - Caterer may have own timeline you need to let them know by.
- Organize schedule for the day to distribute to presenters, teachers and students. (Appendix P)
- Enlarge workshop key. (Workshop color-coded symbol with session location) (Appendix Q)
  - Identify strategic locations around the conference facility for display of the workshop key for easy student reference.
  - Print 8" x 11" workshop location map for all teacher liaisons, each workshop table and for all staff with color-coded symbols showing where each workshop is being held.
- Generate a tally list.
  - Teacher liaison name, school, total number of attendees from each school
  - Presenters
  - Keynote speaker
  - Staff of partnering organizations
  - Guests
- Partners meet to discuss the schedule of the day.
  - Decide who will introduce speakers, who will show guests around, who will be media contact, etc.

# 1 Week Out

## Teacher Components

- Make sure teacher liaisons have bus schedule, pick-up location, time, emergency number to call and understand the wait list protocol. (Appendix O)
  
- Set up a time to deliver totes that contain nametags for students and teacher liaison
  - Totes and nametags are usually delivered 1-2 days before the conference.

# 1 Week Out

## Student Components

- Create name badges, and Certificates of Participation
  - Print out name badges and affix color-coded symbols for the 3 workshops each student will attend. (Appendix R). Done most easily with three people assembling nametags and symbols in assembly line manner.
    - This data is from the queries of the Access Database.
    - Determine way to distinguish “no photo” students on nametags.
- Print out Certificates of Participation for attending students. (Appendix R)
  - Organize in an envelope according to teacher name/school.
  - This envelope will also contain the evaluations forms to be handed out to students at the end of the day by their teacher.

# 2 Days Out

## Logistics

- Hand-deliver nametags and tote bags to teacher liaisons.
  - Instruct teachers to hand out nametags to students on the bus on the day of the conference not before hand so they don't become lost.
- Have teachers keep a waiting list of their students in case of any last-minute cancellations.
  - The wait-listed student may use the badge of the cancelled student and attend the workshops indicated by the color-coded symbols on the badge.

# 1 Day Out

## Logistics

- Set-up workshops for presenters with water, location maps, and program on table, along with specified A/V needs.
- Set up for closing activity if in another area of building.
  - Lobby set-up: sixteen 8 ft. tables for banner creation
- Buy flowers to give to keynote speaker as a thank you.
- Final confirmation with caterer(s).
- Final confirmation with Bus Company.
- Final confirmation with presenters.
- Have run through with A/V department.
  - Need microphone for opening activity, lunch and keynote address.
  - Possible need of computer setup for opening activity and keynote address.
- Compile workshop attendance sheet with number of participants to leave for each presenter.
- Final instructions to staff on flow of students during the day.

# Day of Conference

## Logistics

- Registration Desk for presenters
  - Have pastries and coffee set up nearby to welcome presenters.
  - Hand out presenter bags at registration desk.
    - Bags include:
      - Stipend
      - Schedule
      - Evaluation form
      - Attendance sheet for each workshop
- Extra staff to greet presenters, help carry materials into building and set-up
- Staff/volunteers to greet students, hand out programs and escort into gathering location
- Participants directed to opening activity as they enter the facility.
  - Arrange for someone to formally welcome the girls at the opening Activity.
    - Usually a director or representative from a partner location
  - Have materials for the Opening Activities set up.
    - May include A/V
- Have envelopes for each school, organized by the teacher name.
  - Envelope contains:
    - Evaluation forms
    - Teacher Stipend
    - Certificate of Participation for students
      - Will not be handed out until end of the day at Keynote Address
- Have bracelets and rulers ready to hand out as a thank you for participating in the day
- Assign staff to take photos.
  - Remember the “no photo” students.

# Day of Conference

## Presenter Components

- Set out coffee/pastry.
- Arrange for staff at registration table to check in presenters, give out tote bags, and bring them to workshop location.
  - Presenter Bags
    - Bags include:
      - Stipend
      - Schedule
      - Color-coded map
      - Evaluation form
      - Attendance sheet for each workshop
- Check to make sure any A/V need of presenters, including power strips is fulfilled.
- Inform presenters of the policy of when to release students to next workshop
  - If there is a loud speaker in your facility, this would be a good way to have everyone change workshops at the same time. Otherwise, recruit volunteers to go to each workshop session 2 minutes prior to the end to announce the change in workshops.
- Have presenters complete evaluation form and return to designated staff person

# Day of Conference

## Teacher Components

- Have envelopes for each school, organized by the teacher name.
  - Envelope contains:
    - Evaluation forms for students and teachers (different forms) to be completed and turned in before leaving the Keynote Address.
    - Teacher Stipend
    - Certificate of Participation for students
      - Will not be handed out until end of Keynote Address.

# Day of Conference

## Student Components

- Student souvenirs ready to distribute: "Girls Rule" ruler, bracelet, and a Certificate of Participation
- Have materials ready for banner-making.
  - Rolls of paper cut into 8 ft. sections
    - One section for each school
  - Markers (two sets /school)
- Complete Evaluation forms
  - Bring lots of extra pencils for students to complete these forms.

# After Conference

## Logistics

- Send out thank you notes to presenters, keynote speaker, funders, facility, etc.
  - We also send out the programs and tote bags to the funders as a thank you.
- Have final wrap-up meeting.
  - Debrief the day in detail
    - Positives
    - Negatives
    - What can be improved for next year, etc.
    - Go over comments from the evaluation forms

# APPENDIX

Regional Science Resource Center

**2008 Women in Science Conference Budget  
December 20, 2007**

<b>Expenses</b>	<b>EcoTarium</b>	<b>Umass</b>	<b>Total</b>
<b>Personnel (salaries + fringe)</b>			
Public Programs Staff	1,850		1,850
Director, Regional Science Resource Center, UMMS		2,000	2,000
Administrative support/oversight/evaluation	600	600	1,200
Accounting	200		200
<b>Subtotal Personnel</b>	<b>2,450</b>	<b>2,600</b>	<b>5,050</b>
<b>Other costs</b>			
Breakfast Catering	50		50
Buses	1,000		1,000
Phone, Fax, Photocopies	200		200
Printing (Bags and Programs) + supplies	2,000		2,000
Workshop Leader Stipends (12 @ \$75)	900		900
Keynote speaker	500		500
Teacher Stipends (6 @ \$150)	900		900
Luncheon		3,200	3,200
Space Usage	1,500	1,500	3,000
Facility setup/security	1,500	1,500	3,000
<b>Subtotal Other Costs</b>	<b>8,550</b>	<b>6,200</b>	<b>14,750</b>
<b>Total Project Costs</b>	<b>\$11,000</b>	<b>\$8,800</b>	<b>\$19,800</b>
<b>Sources of support (2007)</b>			
	<b>EcoTarium</b>	<b>Umass</b>	<b>Total</b>
Daniels Foundation	7,500		7,500
United Way	3,500	1,500	5,000
UMass funds		4,200	4,200
Other support (TBD)			3,100
<b>Total</b>	<b>\$11,000</b>	<b>\$5,700</b>	<b>\$19,800</b>



## Women in Science Conference

April 5, 2008

Please read the following conversation and answer the question.

### Doing Science

Four students were having a discussion about how scientists do their work. This is what they said:

Antoine: "I think scientists just try out different things until something works."

Tamara: "I think there is a definite set of steps all scientists follow called the scientific method."

Marcos: "I think scientists use different methods depending on their question."

Avery: "I think scientists use different methods but they all involve doing experiments."

**Which student do you agree with?**

**Explain why you agree with that student and include why you disagree with the other students.**

Question from: Uncovering Student Ideas in Science. 2008. NSTApress, Arlington, VA

Regional Science Resource Center

**EcoTarium**  
**University of Massachusetts Medical School**

**WOMEN IN SCIENCE  
CONFERENCE 2008**

February 22, 2008

Dr. Yvonne Spicer  
Museum of Science  
Science Park  
Boston, MA 02114

Dear Dr. Spicer:

Thank you for agreeing to present the motivational keynote address at the twelfth annual Women in Science Conference for Worcester Public Middle School girls. The conference will be held on **Saturday, April 5, 2008** (rain date April 12). The goals of the conference are to increase young women's interest in science through hands-on experiences, to provide information about career opportunities for women in science-related fields, and to provide positive role models who are active in science-related careers.

This note is to confirm that you will be presenting the keynote address, intended to motivate the girls by addressing obstacles they may encounter and explaining how they might overcome adversity and reach their goals. We expect that the keynote address will run from 1:00 p.m. to approximately 1:45 p.m., which will leave time for questions and answers.

We invite you to attend the morning workshops at the EcoTarium. The workshops run from 9 a.m. to 11:30 a.m. and will cover a range of topics from "A Day in the Life of a Criminologist" to "Animal Enrichment: A Better Tool for Animal Care." You are also invited to join us for a sit-down luncheon with the girls at University of Massachusetts Medical School. This is a fun, informal opportunity to interact with the girls and other presenters.

I have enclosed the schedule of the day for you. In the meantime, if you have any questions or concerns, please don't hesitate to contact Lindsey Gouvin (508) 929-2755 or [lgouvin@ecotarium.org](mailto:lgouvin@ecotarium.org).

Very truly yours,  
Lindsey Gouvin  
Museum Educator, EcoTarium

Regional Science Resource Center



## **EcoTarium University of Massachusetts Medical School**

### **Suggestions for Workshop Presenters**

In order to help you prepare for the conference, we have put together some suggestions to keep in mind before and during your workshops:

- Need some ideas or want to brainstorm about your workshop? We'd be happy to help! Contact Lindsey Gouvin at (508) 929-2755 or [lgouvin@ecotarium.org](mailto:lgouvin@ecotarium.org) OR Sandy Mayrand (508) 856-5097 or [Sandra.Mayrand@umassmed.edu](mailto:Sandra.Mayrand@umassmed.edu).
- Please arrive between 7:15 and 8:00 AM. Although this may sound early, it is our experience that arriving early works out better. It allows you the time you will need to settle in and get organized before the girls arrive. Plus, we'll have coffee and breakfast snacks available.
- Lead the girls in an activity that reflects what excites you about your job. The workshops should be interactive — engage the girls' hands and minds! Ask them questions, have them ask you questions, etc. Use some of the tools of your trade, show the girls and let them try.
- Share with the girls a bit about the personal route you took to your current career — it can help them relate to you and to imagine themselves in your job. If there are multiple points of entry into your career field, let them know!
- Target the right age level. These are middle school girls, primarily 13-14 years old. They may not really know what your job is and may never have met anyone who does it! While talking down (or "dumbing" down) to them won't be effective, do try to adapt your language and activities to their level.
- Remember — it's not simply educational, it's fun! Many of our presenters have commented about how much they got out of the experience and how much they enjoyed themselves.
- Please plan to use the full thirty-five minutes. If you end early, please keep the girls at your station until the announcement is made to move on to the next workshop. Releasing the girls early can disrupt other workshops.
- If you have any questions or concerns during the conference, don't hesitate to approach one of the organizers or volunteers. We're here to keep things running smoothly so that you can focus on your workshop!

Regional Science Resource Center



CONFERENCE 2008

**EcoTarium  
University of Massachusetts Medical School**

**Presenter Request Form**

**Name:**

**Title/Affiliation:**

(This is how you will be listed in the program.)

**Workshop Title:**

(Please help us describe your workshop to the girls.)

**Home/ Cell Phone Number:**

(In case of postponement to 3/31, you will be called by 6:30AM.)

**E-mail Address:**

**Will you be attending the luncheon at UMass?**

Workshops are located throughout the museum; if you have specific needs for your workshop, please let us know.

**I need the following for my workshop:**

- Tables/ chairs—how many?
- Electrical Outlet(s) – how many?
- Extension Cord(s) – how many?
- Immediate Access to Running Water—yes or no?
- Pencils
- Paper
- Other:

(Please be specific!)

**Please return this form to Lindsey Gouvin via**

**Fax—(508)929-2701**

**[Email—lgouvin@ecotarium.org](mailto:lgouvin@ecotarium.org)**

**Mail—EcoTarium, 222 Harrington Way, Worcester, MA 01604**

**ASAP!**

Regional Science Resource Center



Dear

We are in the midst of planning the 5<sup>th</sup> Annual Women In Science Conference for Worcester middle school girls. Many of the best presenters from past years have agreed to return for another conference. The date for this year's conference will be Saturday, March 24, 2001 with a snow date of March 31, 2001. Details of the conference are on the enclosed flyer.

We would like to invite you again to participate as a teacher liaison. Your responsibilities would be to recruit participants, help them register for the workshops, get permission slips signed, communicate with me about logistics and then accompany the girls and enjoy the day of the conference. We again can offer a stipend of \$125.

I would like to communicate as much as possible by e-mail this year. If you would e-mail me whether you would like to participate this year, I'll have your address and we'll be in business! My address is [sandra.mayrand@umassmed.edu](mailto:sandra.mayrand@umassmed.edu).

Once I have your address I will forward you a word file containing the flyer that you may print out and distribute to your students.

I hope you will be able to help us again to make the 5<sup>th</sup> Annual Women in Science Conference a great success. Have a Happy Holiday season.

Take care,

Sandy Mayrand

Director

Regional Science Resource Center

Regional Science Resource Center



The 12th annual ***Women in Science*** Conference sponsored by the Regional Science Resource Center at the University of Massachusetts Medical School and the EcoTarium will be held Saturday, April 5th from 9:00 AM to 2:30 PM (Snow Date: April 12, 2008). The goal of the conference is to expose 150 Worcester middle school young women to careers in science and to begin conversations with local women who use science in their professions.

The day will begin at the EcoTarium with twelve 35-minute concurrent interactive workshops led by the following women professionals: engineer, marine biologist, physician, criminologist, chemist, healthcare professional, science teacher, and astronomer, among others. Through demonstrations and group activities, the interactive workshops will show the students how science is used in the workplace. The presenters will explain different entry levels to their careers, provide tips on courses of study and ways to prepare and train for their professions. The students will then rotate to different workshops so that each student will be able to attend three of twelve possible workshops.

At the conclusion of the workshop session, the students will be transported to the Medical School for a luncheon. The luncheon will provide an opportunity for students and presenters to continue discussions in a more informal setting. Medical and graduate students will also join the young women at the lunch discussions. Following lunch, there will be a motivational address by Dr. Yvonne Spicer from the Museum of Science. An interactive group activity will conclude the day's events at 2:30 PM.

For further details, contact Sandy Mayrand, Director of the Regional Science Resource Center, UMMS at (508) 856-5097 or [Sandra.Mayrand@umassmed.edu](mailto:Sandra.Mayrand@umassmed.edu)

This year's ***Women in Science*** Conference is sponsored by the following: Analog Devices, Inc., the Women's Initiative of the United Way of Central Massachusetts, GEAR UP of the Colleges of Worcester Consortium, Inc., and Diane Casey, PhD.

Regional Science Resource Center



The **Women in Science** Conference is presented by  
The EcoTarium and the University of Massachusetts Medical School on:

**SATURDAY, APRIL 5, 2008**

**9:00 a.m. to 2:30 p.m.**

**(Bus pick-up at 8:30 a.m.)**

*(Snow date April 12, 2008)*

**REGISTRATION FORM**

**Due by March 7, 2008**

Please **PRINT** clearly...

NAME: \_\_\_\_\_

SCHOOL: \_\_\_\_\_

Please select four workshops which you would most like to attend from the list below:

*1 for first, 2 for second, 3 for third, and 4 for fourth - 4 choices max*

\_\_\_\_\_ **ANIMAL CARE:** *"What it Takes to Care for Animals"*

\_\_\_\_\_ **ASTRONOMY:** *"What's in the Sky?"*

\_\_\_\_\_ **CHEMISTRY:** *"Incredible Experiments in Chemistry"*

\_\_\_\_\_ **CRIMINOLOGY:** *"How to Solve Crimes"*

\_\_\_\_\_ **PUBLIC HEALTH:** *"How to Keep Healthy"*

\_\_\_\_\_ **MECHANICAL ENGINEERING:** *"Helping People with Disabilities Live Fuller Lives"*

\_\_\_\_\_ **ENGINEERING DESIGN:** *"How to Solve Real World Problems"*

\_\_\_\_\_ **MARINE BIOLOGY:** *"Life in the Ocean"*

\_\_\_\_\_ **NURSING:** *"Many Ways to be a Nurse"*

\_\_\_\_\_ **SCIENCE TEACHING:** *"The Inside Scoop on Teaching Science"*

Regional Science Resource Center

\_\_\_\_\_  
NAME OF INDIVIDUAL  
(Please Print)

\_\_\_\_\_  
DATE



*Student Consent/Release Form*

**UNIVERSITY OF MASSACHUSETTS MEDICAL SCHOOL**

I hereby give my consent to the University of Massachusetts Medical School to photograph or film my minor child at the 2008 Women in Science Conference and to use the images and recordings of their voice in such forms as photographs, slides, movies or videotapes in broadcasts, UMMS Web site pages, publications and/or video displays or distribution in any manner. I understand that such pictures may be used as deemed appropriate by UMMS and that no fees will be paid for the use of these pictures. I release UMMS and its employees and agents from liabilities that may arise from the taking or the use of these images.

\_\_\_\_\_  
SIGNATURE OF PARENT OR LEGAL GUARDIAN

\_\_\_\_\_  
STREET ADDRESS

Sandra Mayrand, 508 856-5097, Director, Regional Science Resource Center

Person requesting Release Form

<b>Quantity needed</b>	<b>Where to order from</b>	<b>Price</b>
Bakery assortment for 40 people, 3 regular coffee, 1 decaf coffee	Eric's La Patisserie Café www.ericscafeworcester.com Tel: 508.756.1454 Fax: 508.799.5332	Bakery assortment, \$2.75/ person Coffee, \$12.35/ box
4 (approximately 70 students can be seated per bus)	AA Transportation http://www.aatransportation.us/ Tel: 508.845.7215 Fax: 508.791.9100	Changes with year and amount of stops, 2008 cost, \$200.00/ bus
2 boxes (depends on year, some presenters request them for workshop)	Office supplier (WB Mason, Staples, Office Max, etc.)	Varies
5 (presenters use for workshops)	We borrow them from our maintenance department	None
200 (1 per girl and extras for presenters, funders, guests)	Wristband warehouse sales@wristbandwarehouse.com www.wristbandwarehouse.com Toll Free: 800.419.0428 Fax: 866-841-0416	Depends on quantity-- approximately \$.49/each
18 sets (3 sets per school)	Office supplier (WB Mason, Staples, Office Max, etc.)	Varies
1 roll	Dick Blick art supplies www.dickblick.com Item # 115011320	\$32.49
200 (1 per girl and extras in case they lose them)	Office supplier (WB Mason, Staples, Office Max, etc.)	Varies
200 (1 per girl and extras in case they lose them)	Office supplier (WB Mason, Staples, Office Max, etc.)	Varies
200 (1 per girl, 1 per presenter, 1 per guest, extras for funders)	Guertin's Graphics http://www.guertingraphics.com/ Tel: 508.754.0200 Fax: 508.798.0060	\$4.63/ bag Each time you redesign bag there is a \$20.00 screen making fee
24 bottles (most presenters have multiple people with them, so plan for 2 per presenter)	Wholesale store (BJ's, Costco, Sam's Club)	Varies
12 (1 per presenter, if presenters have access to white boards)	Office supplier (WB Mason, Staples, Office Max, etc.)	Varies
12 (1 per presenter, if presenters have access to white boards)	Office supplier (WB Mason, Staples, Office Max, etc.)	Varies

Regional Science Resource Center

August 19, 2009

Dear Friend,

On behalf of the EcoTarium and the University of Massachusetts Medical School, it is my great pleasure to invite you to join us for the 12<sup>th</sup> annual Women in Science Conference for middle school girls to be held on Saturday, April 5<sup>th</sup> (snow date: Saturday, April 12<sup>th</sup>) from 9:00 – 2:30 at the EcoTarium and the University of Massachusetts Medical School. This is a vibrant and powerful event for these young women as well as the conference presenters, organizers, and guests.

The girls who participate in the conference are in the 7<sup>th</sup> and 8<sup>th</sup> grades in the Worcester Public Schools and more than 60% are minorities. The purpose of the day is to introduce girls to the many different options for careers in science and to begin conversations with local women scientists. In the morning, each girl chooses and participates in three hands-on, interactive workshops conducted by women who use science in their careers. At noon, the girls travel to the University of Massachusetts Medical School for a sit down lunch, permitting discussions to continue in an informal setting, followed by a keynote presentation. This year's keynote speaker is Dr. Yvonne Spicer, Vice President, Advocacy and Educational Partnerships, National Center for Technology Literacy, Boston Museum of Science.

The annual Women in Science Conference is a grant-funded science program for inner-city middle school girls organized by the EcoTarium and the University of Massachusetts Medical School. Major support for this year's conference is provided by Analog Devices, Inc. and the Women's Initiative of United Way of Central MA, and additional support is provided by GEAR UP at the Colleges of Worcester Consortium and Diane Casey, PhD.

The program begins at the EcoTarium at 9 a.m. with a welcome address by Dr. Deborah Harmon Hines, Associate Vice Chancellor, University of Massachusetts Medical School and is followed by the conference workshops. Lunch and the keynote address are then held at the University of Massachusetts Medical School, which is five minutes from the EcoTarium. I hope you can join us for all or some of the day.

Please let us know if you plan on attending by calling Molly Jo at (508) 929-2783, or via e-mail to [mmchugh@ecotarium.org](mailto:mmchugh@ecotarium.org) by March 28<sup>th</sup>. I promise you an interesting and exciting day.

Sincerely,



Stephen M. Pitcher

President

EcoTarium

Regional Science Resource Center



# Girls Explore Careers at Annual "Women in Science" Conference

*City event gives girls plenty of reasons to study science*

MEDIA CONTACT: Sarah Hesshaus  
Communications Manager  
[shesshaus@ecotarium.org](mailto:shesshaus@ecotarium.org)  
(508)929-2738

February 13, 2008

(WORCESTER, Mass.) -- From zoo keepers and astronomers to marine biologists and chemical engineers, science plays a major role in many cutting-edge career fields. Yet, even though women constitute 35% of the workforce in the U.S., they hold just 15% of science and engineering jobs in business and industry, according to the Council on Competitiveness.

This year, more than 100 seventh and eighth grade girls from Worcester's middle schools will spend the day exploring careers with a scientific base at the 2008 Women in Science Conference on Saturday, April 5 from 9 a.m. to 2:30 p.m. The conference, a joint project between the EcoTarium and the University of Massachusetts Medical School, is designed to offer girls real-life role models and inspiration for pursuing their interests in the sciences.

Upon arrival at the EcoTarium at 9 a.m., the girls will participate in three science-based workshops hosted by women in a specific science field. Each workshop includes hands-on activities and the opportunity to meet dynamic women who have turned their love of science into successful careers. At 11:30 a.m. the girls will take a bus over to the University of Massachusetts Medical School for a luncheon and a keynote address by Dr. Yvonne Spicer, Vice President for Advocacy and Educational Partnerships at the National Center for Technological Literacy K-12 at Boston's Museum of Science. Dr. Spicer is dedicated to reaching young people and getting them excited about science and engineering. The day will come to a close with a group activity in which the girls will showcase what they learned at the conference, creating something to take back and present at their respective middle schools.

Presenters for this year's event include women from the State Police Crime Laboratory, Intel, University of Massachusetts Medical School, The Wright Center for Science Education at Tufts University, WPI, the EcoTarium and middle school teachers as well as college professors. The snow date for the conference is Saturday, April 12 from 9 a.m. to 2:30 p.m.

This event is not open to the general public. Media interested in attending the conference should contact Sarah Hesshaus before 5 p.m. on Friday, April 4.

EcoTarium, A Museum of Science & Nature, offers three floors of interactive exhibits, wildlife habitats, interpretive nature trails, Massachusetts' only digital planetarium, and a narrow-gauge railroad. The museum, located at 222 Harrington Way in Worcester, Mass., is open Tuesday through Saturday from 10 a.m. to 5 p.m.; Sundays 12 to 5 p.m. Admission is \$10 for adults and \$8 for seniors, college students and children ages 3-18. Parking is free. For information, visit [www.ecotarium.org](http://www.ecotarium.org), call (508) 929-2700 or email [info@ecotarium.org](mailto:info@ecotarium.org).

Regional Science Resource Center



**Sample Teacher Evaluation**  
**Women In Science Conference**

**Saturday, April 5, 2008**

**Teacher Evaluation Form**

*Please complete this evaluation and return it to a Host before you leave. We would like to know what you think of today's conference! Your comments are a valuable part of our ongoing efforts to ensure the most educational conference. Thank You!*

**Please rate each aspect of the conference.**

**3 = Excellent**

**2 = Okay**

**1 = Poor**

Comments:

Opening Activity                      3                      2                      1

Workshop 1                              3                      2                      1

**Title:**

Workshop 2                              3                      2                      1

**Title:**

Workshop 3                              3                      2                      1

**Title:**

Lunch                                      3                      2                      1

Keynote Address                      3                      2                      1

Closing Activity                      3                      2                      1

What did you like best about the conference?

What would you have changed about today's conference?

Did you find the presenter, materials and information appropriate for this age group?

Was enough information provided to you prior to the actual event? (If not, please explain.)

How could we have better supported recruitment and participation from your school?

Your name (optional):

Regional Science Resource Center

## Sample Evaluation Form for Presenters

### Women In Science Conference

Saturday, April 5, 2008

### Workshop Presenter Evaluation Form

*Please complete this evaluation and return it to Lindsey or Helen before you leave. We would like to know what you think of today's conference! Your comments are a valuable part of our ongoing efforts to ensure the most educational conference. Thank You!*

Did you receive sufficient information prior to the conference? Please explain.

What did you enjoy about today's conference?

What would you have changed about today's conference?

Would you recommend to a colleague that she consider participating as a presenter?

Why or why not?

Would you be interested in information about participating next year?

Name:

Preferred method of contact:

Other comments:

Regional Science Resource Center

**Women In Science Conference  
Saturday, April 5, 2008**

**Student Evaluation Form**

*Let us know what you think!*

**Please rate each aspect of the conference.**

**3 = Excellent**

**2 = Okay**

**1 = Poor**

Comments:

Opening Activity                      3                      2                      1

Workshop 1                              3                      2                      1

**Title:**

Workshop 2                              3                      2                      1

**Title:**

Workshop 3                              3                      2                      1

**Title:**

Lunch                                      3                      2                      1

Keynote Address                      3                      2                      1

Closing Activity                      3                      2                      1

*Please finish the following phrases:*

My favorite part was...

The worst part was...

If I had to describe this conference to another girl, I would tell her...

I never knew...

Now that I've participated in this conference, my career goals have changed/ not changed because...

# EcoTarium University of Massachusetts Medical School



CONFERENCE 2008

## Schedule

7:15- 8:00	Arrive at EcoTarium, Set-up, & Light Breakfast on Lower Level
8:45	Buses Arrive with Girls from Middle Schools
9:00	Introductory Activity & Orientation- Telecommunication Center
9:35-10:10	Workshop #1
10:15-10:50	Workshop #2
10:55-11:30	Workshop #3
11:30	Buses Depart for University of Massachusetts Medical School
12:00	Lunch
12:45	Keynote Address
1:45	Group Activity
2:30	Buses Depart with Girls Back to Middle Schools

Regional Science Resource Center