NAAAEA E-Newsletter – January 2023
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President’s Message

Dear NAAAEA Chapter leaders and Chapter members:

Thank you to those who attended NAAAEA Annual Conference on 11/18/2022 and 11/19/2022 (Virtual-Zoom). Your feedback about the conference is highly encouraged: Go to https://nationalaaaea.org and on the Home page, Click on “Contact Us”

NAAAEA has recently revamped the website (https://nationalaaaea.org/). Please visit the site to explore its current offerings.

We continued all the programs which were initiated by previous NAAAEA boards.

We introduced a new “Grant for Students Initiatives”, and we introduced a new “NAAAEA Projects”.

We also introduced new programs, this include: Mentorship Program, Retiree List, University Professors List, Speakers List, Arab-Owned Companies List, and Book of NAAAEA Policies.

We established a “Book of NAAAEA Policies”. One of these policies is a “Policy and Guideline on How to Start NAAAEA Chapter in your State”.

We also introduced two new Awards: Outstanding Young Engineer Award, and Outstanding Student Award.

All of the above programs, initiatives, policies, and awards are currently on the website (https://nationalaaaea.org)

All are encouraged to:
1. Consider joining a program or initiative
2. Nominate candidates for the Outstanding Student Award or the Young Engineer Award
3. Provide feedback on the website contents
4. Forward this E-Newsletter to your members and others and encourage them to participate
5. Recommend any other programs or initiatives. NAAAEA will investigate the feasibility of your recommendation and implement, if found feasible.

Looking forward to hearing from you.

Dr. Soliman Khudeira, PhD, SE, PE
NAAAEA President
NAAAEA Mission Statement

NAAAEA is a professional Arab American association dedicated to help, strengthen, empower and inspire its members for excellence. NAAAEA promotes and advocates the Arab American Engineers, Architects and Information Technology professionals in the United States, by providing career and educational enhancement programs, technical exchange, fellowship, and community service. NAAAEA is a non-profit, non-political and non-religious Professional Association.

For more information, see the NAAAEA Bylaws (https://nationalaaaea.org/) On the “ABOUT US” tab
Announcements

National AAEEA Scholarship
Application deadline: **October 15, 2023.**
Apply at [https://nationalaaea.org/scholarship-application/](https://nationalaaea.org/scholarship-application/)

Grant for Students Initiatives
This NAAAEA Grant Program has been developed to assist AAEEA students to advance their initiatives into the application stage.
Apply at [https://nationalaaea.org/grant-for-student-initiatives/](https://nationalaaea.org/grant-for-student-initiatives/)

Grant for NAAAEA Chapters
This NAAAEA Grant Program has been developed to assist to assist the local chapters in growing and promoting their activities. Apply at [https://nationalaaea.org/grant-program/](https://nationalaaea.org/grant-program/)

Outstanding Student Award
Apply or Nominate others. See website [https://nationalaaea.org/grant-program/](https://nationalaaea.org/grant-program/) for more details

Outstanding Young Engineer Award
Apply or Nominate others. See website [https://nationalaaea.org/grant-program/](https://nationalaaea.org/grant-program/) for more details
The 2022 Annual NAAAEA Conference was on two days: 11/18/2022 and 11/19/2022 (Virtual-Zoom). The conference program is shown below

### Friday, November 18, 2022

<table>
<thead>
<tr>
<th>Time Limit (Minutes)</th>
<th>Session Title</th>
<th>Presenter</th>
<th>Educational Sessions Presentation Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Educational Presentation 1</td>
<td>Raafid Alkheleh, Tareq Kour</td>
<td>Update on Jordan’s Technology Sector and its Engineering Capabilities</td>
</tr>
<tr>
<td>20</td>
<td>Educational Presentation 2</td>
<td>Dr. Omar Elbagali, PhD, PE</td>
<td>Developing Multi-year Pavement Rehabilitation Plan (using city of Fort Worth, TX as a case study)</td>
</tr>
<tr>
<td>20</td>
<td>Educational Presentation 3</td>
<td>Dr. Moussa Issa, PhD, PE, SE</td>
<td>Engineering Demolition Challenges and Solutions</td>
</tr>
</tbody>
</table>

### Saturday, November 19, 2022

<table>
<thead>
<tr>
<th>Time Limit (Minutes)</th>
<th>Session Title</th>
<th>Presenter</th>
<th>Educational Sessions Presentation Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>20</td>
<td>Educational Presentation 4</td>
<td>Dr. Ouasma Rammadan, PhD, PE</td>
<td>Estimating Unmet demand on Freeways Using probe data</td>
</tr>
<tr>
<td>20</td>
<td>Educational Presentation 5</td>
<td>Nabeel W. Khatib, MS, EI</td>
<td>Introduction to the FE, PE, and SE Licensing Exams</td>
</tr>
<tr>
<td>20</td>
<td>Educational Presentation 6</td>
<td>Soulaime Benteleb</td>
<td>Unsupervised Classification of EEG Activity as Physiological or Pathological in Epilepsy Patients</td>
</tr>
<tr>
<td>20</td>
<td>Educational Presentation 7</td>
<td>Moustafa Abdali, PE, SE</td>
<td>Inspection, Instrumentation, Field Load Testing and Load Rating for I-39 Bridges over the Milwaukee River</td>
</tr>
</tbody>
</table>
The 2022 Annual NAAAEA Conference was on two days: 11/18/2022 and 11/19/2022 (Virtual-Zoom). Screen capture of some of the presentations are shown below.
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Mentorship Program

The purpose of the NAAAEA Mentorship Program is to gather names of members who are interested in becoming a mentor to students and to those in the professional practice.

If you are interested in volunteering in the Mentorship Program, please visit https://nationalaaaea.org/ and enter your information the “Resources” tab.
NAAAEA Resources: Retirees List

Retirees List

The purpose of the NAAAEA Retiree List is to gather names of members who are interested in becoming a mentors to students. The list will also serve as a Resource to those who are in the professional practice.

If you are interested in adding your name to the Retiree List, please visit https://nationalaaaea.org/ and enter your information the “Resources” tab.
University Professors List

The purpose of the NAAAEA University Professors List is to gather the names of Arab Professors. The goal is to foster future cooperation among the professors on the list.

If you are interested in adding your name to the University Professors List, please visit https://nationalaaaea.org/ and enter your information in the "Resources" tab.
Speakers List

The purpose of the NAAAEA Speakers List is to gather names of Arab speakers who are willing to present their areas of expertise in webinars and conferences.

If you are interested in adding your name to the Speakers List, please visit https://nationalaaaea.org/ and enter your information in the “Resources” tab.
Arab-Owned Companies List

The purpose of the Arab-Owned Companies List is to foster cooperation among the owner of the companies.

If you are interested in adding your company name to the Arab-Owned Companies List, please visit https://nationalaaaea.org/ and enter the information in the “Resources” tab.
The purpose of the Book of NAAAEA Policies is to provide these policies as a template for the chapters to use if they wish to use any of them.

See https://nationalaaaea.org/ website under “RESOURCES”.

If your Chapter is interested in a specific policy that is not currently on NAAAEA website, please contact NAAAEA (https://nationalaaaea.org/contact-us/) to prepare the policy and share with all Chapters to use.
Educational Resources

NAAAEA has various educational-related resources. See [https://nationalaaaea.org/](https://nationalaaaea.org/) website under “EDUCATION” tab.

The current Educational Resources include:
- FE Exam Resources
- PE Exam Resources
- PDH Certificates
- Webinars
- Articles
- Newsletters
- Submit an Article for the Newsletter

If your Chapter is interested in a specific educational materials (classes, webinar, PDH topics, etc.) that are not currently on NAAAEA website, please contact NAAAEA ([https://nationalaaaea.org/contact-us/](https://nationalaaaea.org/contact-us/)) to prepare the materials and share with all Chapters.
Grant for NAAAEA Chapters

The NAAAEA Grant Program has been developed to assist the chapters in growing and promoting their activities.

Eligibility
All NAAAEA chapters are eligible to submit a grant application.

Amount of the Grant
Specify the amount you are requesting for the program or the project. Provide a brief breakdown of the requested amount. NAAAEA will award grant(s) based on the availability of funds.

Apply at
https://nationalaaaea.org/grant-program/
Grant for Students Initiatives

This NAAAEA Grant Program has been developed to assist AAEA students to advance their initiatives into the application stage.

Eligibility
All NAAAEA chapter Students are eligible to submit a grant application.

Amount of The Grant
Specify the amount you are requesting for the program or the project. Provide a brief breakdown of the requested amount. NAAAEA will award grant(s) based on the availability of funds.

Apply at: https://nationalaaaea.org/grant-for-student-initiatives/
NAAAEA Scholarship

The NAAAEA scholarship was established by the National AAAEA and is presented to an Undergraduate or Graduate students in the areas of Engineering, Architecture, and Computer Science.

AMOUNT
At least one scholarship will be awarded annually in an estimated amount of at least $1,000.

ELIGIBILITY REQUIREMENTS
The NAAAEA scholarship is available to student members of who are attending an accredited university in the USA and must be a student-member in any one of the NAAAEA Chapters.

Apply at:
https://nationalaaaea.org/scholarship-application/
Application deadline: October 15, 2023
Career Center

The National Career Center is one of the NAAAEA programs that strive to provide the members with services, programs, and resources to advance their career to the next level.

This tab include:
• Search for Opportunity, and
• Submit Job Opportunity

See https://nationalaaaea.org/ website under “CAREER”.
The National Council of Examiners for Engineers and Surveyors (NCEES) has changed the traditional paper and pencil (P&P) test, to a Computer-Based Test (CBT) for the Fundamental of Engineering (FE) and the Principles and Practice of Engineering (PE) exams.

Advantages of a CBT:
- This allows the NCEES to get the results back to examinees within typically 7-10 days
- The CBT will save the examinees the cost of purchasing the design standards (i.e., ACI 318, ASCE 7-10, AISC, etc.), since these standards will be provided by the NCEES electronically on the day of the exam.
- The NCEES will provide an electronic handbook (version 1.1), which cover the topics that are needed to answer the questions.

The following are items that did not change from the traditional P&P test to the CBT:
- Topics
- Preparation needed
- Fees
- Type and style of the questions

The following are items that did change from the traditional P&P test to the CBT:
- Time: The overall duration is the same. However, the new CBT PE allows you to split the time unevenly between the breadth and the depth portions.
- Materials: The new CBT is mainly based on the NCEES handbook and standards. All the materials are going to be available during the day of the exam. The handbook is downloadable in advance on the official website of the NCEES under “Useful Documents”. The standards are not available until the day of the exam.

What should you do to maximize your chance of passing the CBT PE Civil Exam?
- Make sure you are fully familiar with the handbook as well as the standards
- Use the principal of the “4T’s”: “T1” is familiarize yourself with the Terms, ”T2” is to build your own Templates, ”T3” is Time management, and “T4” is to Trust yourself
The Veluwemeer Aqueduct: Netherland's Unique Water Bridge

- Veluwemeer Aqueduct is a 25-meter (82 ft) long navigable aqueduct located over Veluwemeer lake in Harderwijk, Netherlands.
- Opened in 2002
- It passes over N302 Road
- The depth of water is 3-meter (9.84 feet)
- Unlike conventional solutions (i.e., vehicle bridge or a vehicle tunnel), Engineers decided on a different approach: a “water bridge”.
- There are also pedestrian crossings on both sides of the waterway
- The road connect mainland Netherlands to the Flevoland island, which is the largest artificial island in the world.
Submit an Article or a Photo Article

All are invited to submit an article to be published in the NAAAEA Newsletter. The article will also be uploaded to the NAAAEA website.

Technical articles related to the following fields are encouraged: Engineering (all disciplines), Architecture, and Information Technology.

Other topics are also encouraged, this include: leadership skills, time management skills, how to encourage volunteerism in not-for-profit organizations, etc.

Submit your article at https://nationalaaaaea.org/ website under “EDUCATION” tab “SUBMIT AN ARTICLE FOR THE NEWSLETTER”
2023 NAAAEA Executive Board Monthly Meetings

Below is the 2023 schedule of the NAAAEA National Executive Board (NEB) Monthly Meetings. All are encouraged to contact us at https://nationalaaaea.org/contact-us/ and show interest in attending a board meeting. The purpose of your attendance is to provide feedback to NAAAEA and let us know your needs.

<table>
<thead>
<tr>
<th>#</th>
<th>Monthly Meeting from 7:00 pm to 8:00 pm CST (Last Thursday of the Month)</th>
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<tbody>
<tr>
<td>1</td>
<td>1/26/2023</td>
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<td>2</td>
<td>2/23/2023</td>
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<td>3</td>
<td>3/30/2023</td>
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<td>4</td>
<td>4/27/2023</td>
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<td>5/25/2023</td>
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<tr>
<td>6</td>
<td>6/29/2023</td>
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<td>7</td>
<td>7/27/2023</td>
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<tr>
<td>8</td>
<td>8/31/2023</td>
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<tr>
<td>9</td>
<td>9/28/2023</td>
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<tr>
<td>10</td>
<td>10/26/2023</td>
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<tr>
<td>11</td>
<td>11/30/2023 - Thanksgiving day</td>
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<tr>
<td>12</td>
<td>12/28/2023</td>
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# 2023 NAAAEA National Executive Board (NEB) names and Contacts

Contact us. Let us know your needs

<table>
<thead>
<tr>
<th>#</th>
<th>2023 NEB members</th>
<th>Chapter</th>
<th>NEB Position</th>
<th>Email</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Dr. Soliman Khudeira, PhD, SE, PE</td>
<td>IL</td>
<td>President</td>
<td><a href="mailto:Soliman.Khudeira@iit.edu">Soliman.Khudeira@iit.edu</a></td>
</tr>
<tr>
<td>2</td>
<td>Abder Rahman Ghouleh, PE</td>
<td>IL</td>
<td>Vice President</td>
<td><a href="mailto:arghouleh@gmail.com">arghouleh@gmail.com</a></td>
</tr>
<tr>
<td>3</td>
<td>Nabih Hussein, PE</td>
<td>TX/Houston</td>
<td>Secretary</td>
<td><a href="mailto:nabihhussein@gmail.com">nabihhussein@gmail.com</a></td>
</tr>
<tr>
<td>4</td>
<td>Hussam Alkhatib, PE</td>
<td>IL</td>
<td>Treasurer</td>
<td><a href="mailto:hussam.alkhatib@graefusa.com">hussam.alkhatib@graefusa.com</a></td>
</tr>
<tr>
<td>5</td>
<td>Rami Asfahani, PE</td>
<td>IL</td>
<td>IT Committee Chair</td>
<td><a href="mailto:ramiasfahani@gmail.com">ramiasfahani@gmail.com</a></td>
</tr>
<tr>
<td>6</td>
<td>Nabil Khatib, EIT</td>
<td>CO</td>
<td>Education Committee Chair</td>
<td><a href="mailto:nabeal.khatib@yahoo.com">nabeal.khatib@yahoo.com</a></td>
</tr>
</tbody>
</table>

| BOD | Dr. Hosam Salman, PhD, PE | TX   | BOD Chair | Hosam.Salman@wsp.com |

Screen shot from the Website
The National AAAEA (NAAAEA) is a non-profit organization, and it is IRS Tax Exempt under Section 501(c)(3).

NAAAEA has nine (9) Chapters in various States in the USA. NAAAEA and its Chapters have an impressive track record of technical seminars, E-newsletter, professional engineering conferences, social networking events, introduction to the Fundamentals of Engineering (FE) Exam, introduction to the Principles and Practice of Engineering (PE) Exam, introduction to the Structural Engineering (SE) License Exam, tutoring programs for the SAT and ACT tests for high school students, a scholarship program for college students, Grants for college student initiatives, and Awards to students and professionals programs.

**Benefits of Sponsorship:** Sponsorship benefits include:
- Your company logo & name will be displayed on the home page of the National AAAEA Website with an active link to your company website
- Your company logo & name will be included in the NAAAEA E-Newsletter
- You can advertise job postings on the NAAAEA website and thru email.
- Your company logo & name will be recognized and displayed at the annual NAAAEA National conference

**Amount:** $1000 – For a full year of benefits
Current NAAAEA Chapters

NAAAEA has currently nine Chapters listed below and shown on the map below.

Click below on the chapter link shown below to visit the Chapter’s website.

• California Chapter
• Capital Area Chapter (DC, VA, MD)
• Colorado Chapter
• Dallas Chapter
• Houston Chapter
• Illinois Chapter
• Michigan Chapter
• Tri-State Chapter (NY, NJ, CT)
• Wisconsin Chapter

A link to each Chapter is also provided on NAAAEA website https://nationalaaaea.org/ under the “CHAPTERS” tab.
Interested in Forming a New NAAAEA Chapter?

If you are interested in forming a new NAAAEA Chapter, or if your existing organization wants to be a Chapter of NAAAEA, please contact us at https://nationalaaaea.org/contact-us/

Note: All NAAAEA Chapters must comply with NAAAEA By-Laws. Click here to learn more about NAAAEA By-Laws.


Map showing the current NAAAEA nine chapters. See https://nationalaaaea.org/ website under the “CHAPTERS” tab for a link to each chapter website.
Follow the following steps and guidelines:

1. Review the NAAAEA By-Laws. Specifically see “ARTICLE II – CHAPTERS, RULES AND REGULATIONS”. The NAAAEA bylaws can be found online [https://nationalaaaea.org/](https://nationalaaaea.org/) under the “ABOUT US” tab.

2. For a chapter to be formed, a group of at least 10 Arab American Engineers, Architects, or Information Technology professionals need to show interest in forming a chapter of NAAAEA (per Article II, Section 2 of the By-Laws).

3. The 10 professionals need to submit a petition to NAAAEA requesting to be recognized as a Chapter in their geographical area of the United States.

4. After NAAAEA approve the Chapter, the group needs to form a not-for-profit organization and register it in their State.

5. The group will need to apply for their own 501 (c)(3) designation from the Internal Revenue Service.

**Other Action items:**

1. Elect officers from the group
2. Draft your own By-Laws (the National Board can assist)
3. Contact NAAAEA to provide you with your AAAEA State Logo
4. Establish a website (the National Board can assist)
5. Conduct monthly meetings
6. Establish Student Chapters in Universities in your state

**NAAAEA Resources:**

1. Visit [https://nationalaaaea.org/](https://nationalaaaea.org/) web site and utilize the available resources
2. Contact NAAAEA for any of your needs
3. We can meet with your group or via Zoom or in person where possible to assist in your formation or to answer any questions

The Policy “How to start a Chapter” is available on the website [https://nationalaaaea.org](https://nationalaaaea.org) in the “Chapters” tab.
Outstanding Student Award

This NAAAEA Outstanding Student Award has been developed to encourage college students, who are members of any Chapter of NAAAEA, to be active with AAAEA and other professional associations, to volunteer their time with their community activities, and to be accomplished students at their university.

ELIGIBILITY

All AAAEA student members aged 35 or younger who is recognized by colleagues for his/her outstanding achievements, are eligible to submit for this award. Nomination could be by the applicant, or by others who are familiar with the applicant involvements and accomplishments.

See https://nationalaaaea.org/ website under “AWARD” to apply for this Award or to nominate someone.
Outstanding Young Engineer Award

This NAAAEA Outstanding Young Engineer Award has been developed to encourage young AAAEA members to be active with AAAEA and other professional organizations, obtain professional licensed early in their career, and encourage volunteerism in community activities.

ELIGIBILITY

All AAAEA members aged 40 or younger who is recognized by colleagues for his/her outstanding achievements, are eligible to submit for this award. Nomination could be by the applicant, or by others who are familiar with the applicant involvements and accomplishments.

See https://nationalaaea.org/ website under “AWARDS” to apply for this award.
Projects by NAAAEA

The NAAAEA Projects Program is developed to provide technical assistance and initiate new projects in areas throughout the world, but especially in the Middle East. This program is modeled after the Engineers Without Borders (EWB) programs. However, the NAAAEA projects will be mainly in the Middle East, since EWB does not appear that they have projects in the Middle East.

WHAT IS NEEDED FROM ALL
1. AAEA members (students or practicing engineers) are encouraged to show interest in this program. You can enter your information in the NAAAEA website (in the “PROJECTS” tab) and we will contact you once we have enough members that show interest in this program.
2. Company owners and other sponsors are encouraged to contribute funds and/or technical expertise.
3. You can contact agencies in the Middle East and encourage them to submit their project needs to NAAAEA. NAAAEA will investigate the feasibility of the project and implement, if found feasible.

TYPE OF POTENTIAL PROJECTS
1. Clean water infrastructure/treatment/purification
2. Water collection and distribution
3. Sustainable/renewable energy
4. Pedestrian bridges
5. Sustainable housing
6. Sustainable heating and cooking facilities utilizing efficient energy sources
7. Education and training
8. Sanitation infrastructure
9. Other projects, as suggested by NAAAEA community, or as requested by the needed area

See https://nationalaaaea.org/ website under “PROJECTS” to participate in this program
NAAAEA Virtual Visit to a Chapter

The NAAAEA Board have been visiting the chapters virtually.

The purpose of these visits:
1. Brief the chapter leadership on the current NAAAEA programs
2. Solicit feedback on these NAAAEA programs
3. Answer questions about NAAAEA
4. Identify your Chapter’s needs and how NAAAEA can help
5. Any other related topic your board want to discuss

The Chapter can either schedule a separate meeting for this visit or allocate 30 minutes for NAAAEA at your next monthly board meeting.

All Chapters are encouraged to contact NAAAEA to schedule a date and time for the virtual visit. NAAAEA will then arrange the meeting platform and send the Zoom invite.
Sign up to our Email List

Go to [https://nationalaaaea.org](https://nationalaaaea.org)
On the Home page, Click on “Sign up to our Email List”
Go to https://nationalaaaea.org
On the Home page, Click on “Contact Us”
Open Corner

Open Corner

CTRL A to Z

CTRL + A = All Select
CTRL + B = Bold
CTRL + C = Copy
CTRL + D = Duplicate
CTRL + E = Alignment Center Side
CTRL + F = Find
CTRL + G = Group & Go To
CTRL + H = Replace
CTRL + I = Italic
CTRL + J = Justify
CTRL + K = Hyperlink
CTRL + L = Alignment Left Side
CTRL + M = New Slide
CTRL + N = New Page
CTRL + O = Open
CTRL + P = Print
CTRL + Q = Quite
CTRL + R = Alignment Right Side
CTRL + S = Save
CTRL + T = New Tab
CTRL + U = Underline
CTRL + V = Paste
CTRL + W = Close The Window
CTRL + X = Cut
CTRL + Y = Redo
Physics Equations

Force
\[ \sum F = \frac{dP}{dt} = \frac{d(mv)}{dt} \]
\[ \sum F = ma \] (Constant Mass)

Velocity
\[ v_{\text{average}} = \frac{\Delta v}{\Delta t} \]
\[ v = \frac{ds}{dt} \]

Motion
\[ v = v_0 + at \]
\[ s = \frac{1}{2}(v_0 + v)t \]
\[ s = v_0 t + \frac{1}{2}at^2 \]
\[ v^2 = v_0^2 + 2as \]

Acceleration
\[ a_{\text{average}} = \frac{\Delta v}{\Delta t} \]
\[ a = \frac{dv}{dt} = \frac{d^2s}{dt^2} \]

Kinetic Energy
\[ T = \frac{1}{2}mv^2 \]

Gravity
\[ F = \frac{Gm_1m_2}{r^2} \]

Torque
\[ \sum \tau = \frac{dL}{dt} \]
\[ \sum \tau = r \times F \]

Variance
\[ s^2 = \frac{1}{N} \sum_{i=1}^{N} (x_i - \bar{x})^2 \]

Mass Energy
\[ E = mc^2 \]

Impulse
\[ J = \Delta P = \int F \, dt \]
\[ J = F \Delta t \] if \( F \) is constant

Density
\[ \rho = \frac{m}{v} \]

Charge
\[ Q = It \]

The known universe, 1922
100,000 light years

The known universe, Now
93 billion light years
Open Corner

Buckling  Compression  Shear

DID YOU KNOW
These are the Rejected Designs of Eiffel Tower.
End