National Arab American Association of Engineers and Architects - NAAAEA
www.nationalaaaea.org info@nationalaaaea.org

NAAAEA E-Newsletter – January 2023

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Contents of this E-Newsletter

President's Message

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)

<u>All are encouraged to:</u>

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

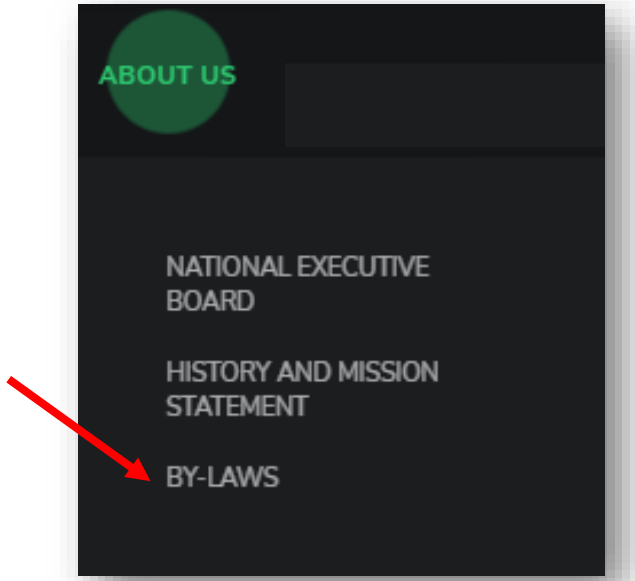
NAAAEA Mission

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

Screen shot from the Website



Announcements

Announcements

National AAAEA Scholarship
Application deadline: **October 15, 2023.**
Apply at https://nationalaaaea.org/scholarship-application/

Grant for Students Initiatives
This NAAAEA Grant Program has been developed to assist AAAEA students to advance their initiatives into the application stage.
Apply at https://nationalaaaea.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://nationalaaaea.org/grant-program/

Outstanding Student Award
Apply or Nominate others. See website https://nationalaaaea.org/grant-program/ for more details

Outstanding Young Engineer Award
Apply or Nominate others. See website https://nationalaaaea.org/grant-program/ for more details

NAAAEA Annual Conference (Virtual Zoom) held in November 2022

NAAAEA Conference 2022 Annual Conference Recap

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			
Time Limit (Minutes)	Session Title	Presenter	Educational Sessions Presentation Topic
20	Educational Presentation 1	Raghad Alkhojah Tareq Kour	Update on Jordan's Technology Sector and its Engineering Capabilities
20	Educational Presentation 2	Dr. Omar Elbagalati, PhD, PE	Developing Multi-year Pavement Rehabitation Plan (using city of Fort Worth, TX as a case study)
20	Educational Presentation 3	Dr. Moussa Issa, PhD, PE, SE	Engineering Demolition Challenges and Solutions

Saturday, November 19, 2022			
Time Limit (Minutes)	Session Title	Presenter	Educational Sessions Presentation Topic
20	Educational Presentation 4	Dr. Ossama Ramadan, PhD, PE	Estimating Unmet deman on Freeways Using probe data
20	Educational Presentation 5	Nabeal W. Khatib, MS, EI	Introducation to the FE, PE, and SE Licencing Exams
20	Educational Presentation 6	Soulaimane Bentaleb	Unsupervised Classification of iEEG Activity as Physiological or Pathological in Epilepsy Patients
20	Educational Presentation 7	Mustafa Alobaidi, PE, SE Hassan M. Issa, PE	Inspection, Instrumentation, Field Load Testing and Load Rating for I-39 Bridges over the Kishwaukee River

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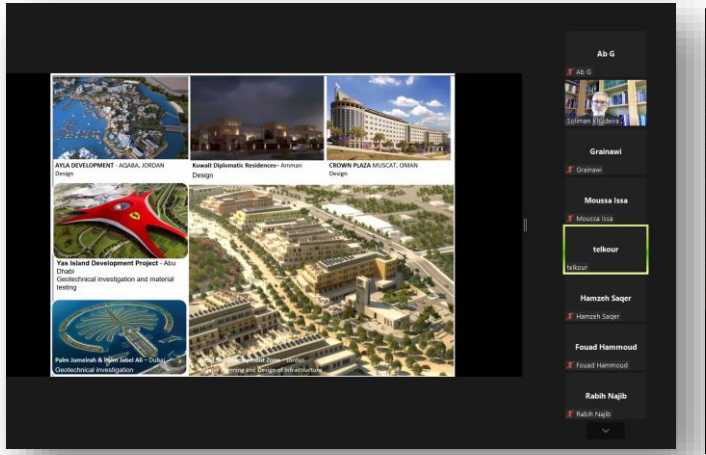

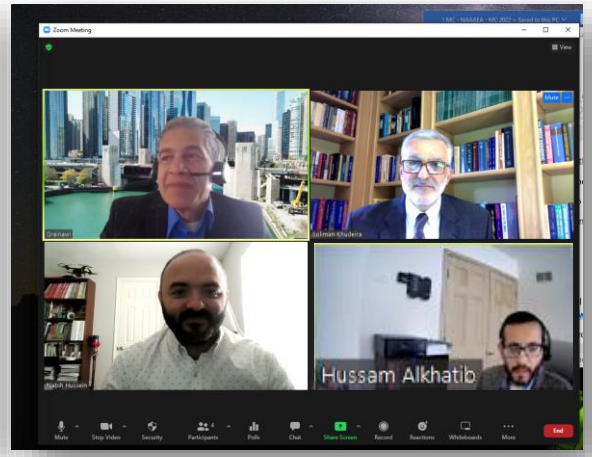

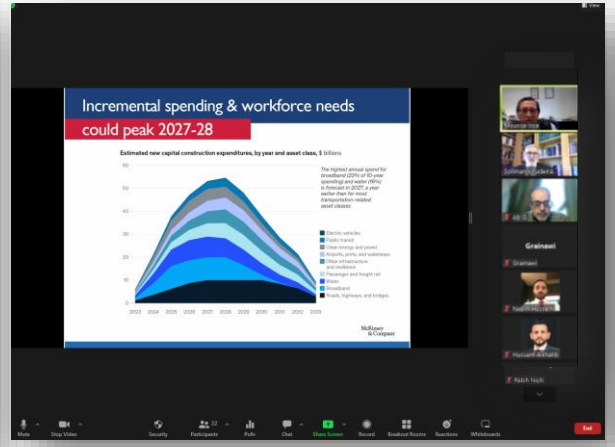

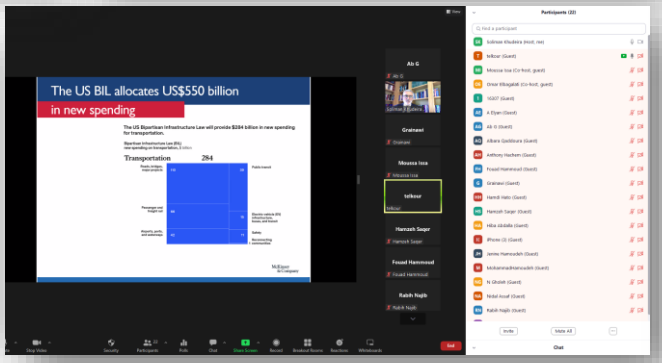

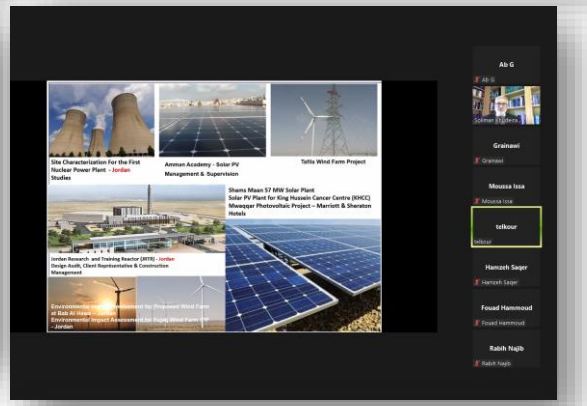

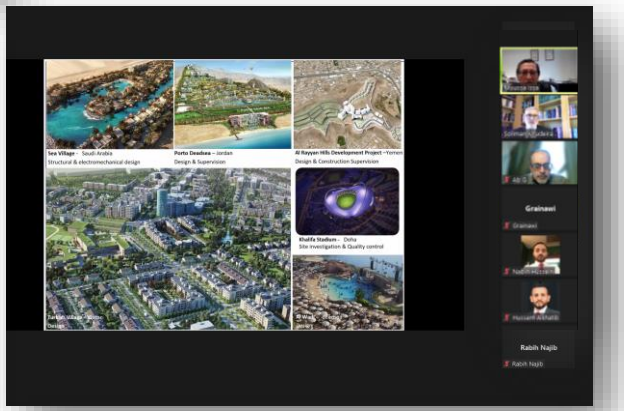

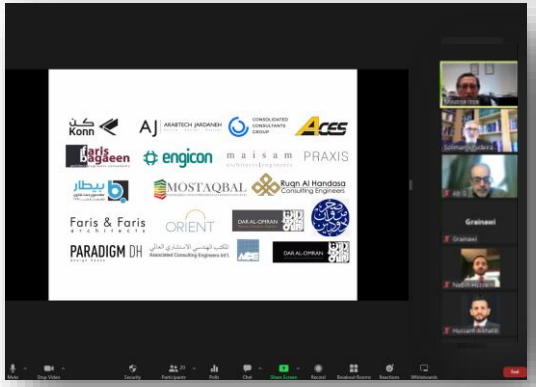

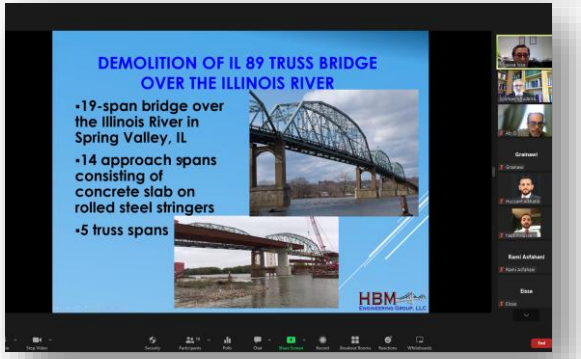

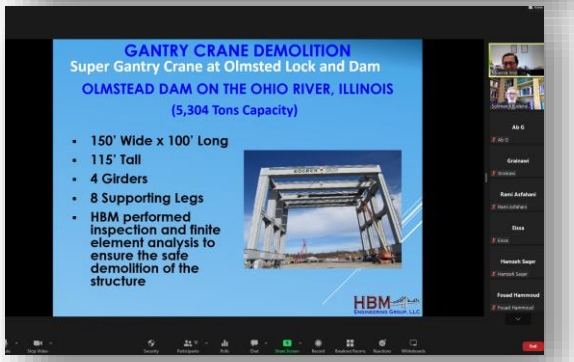

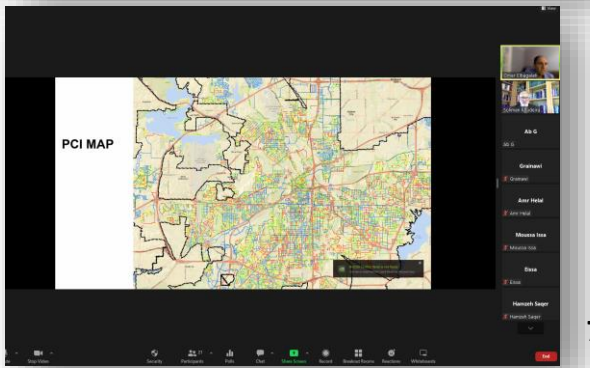

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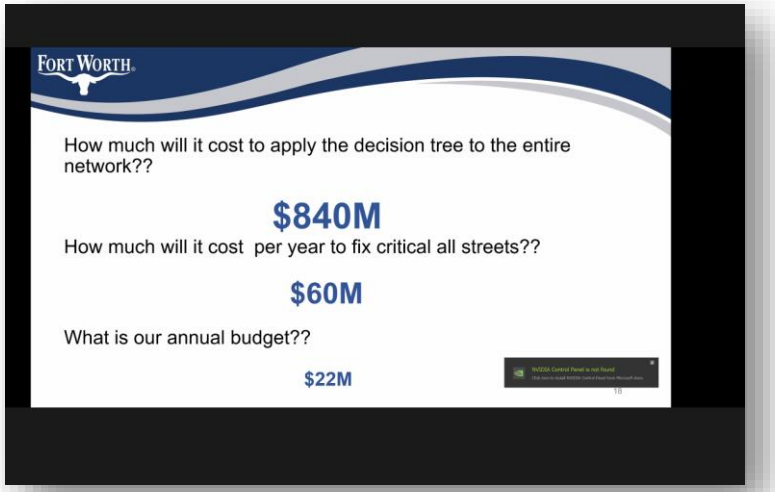

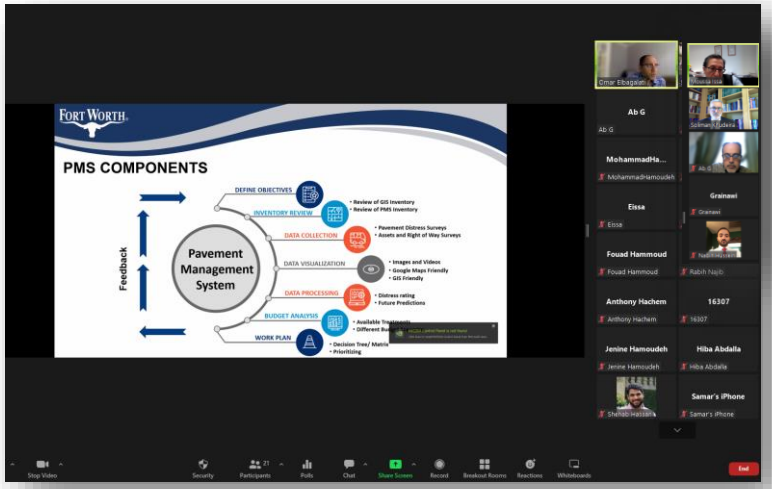

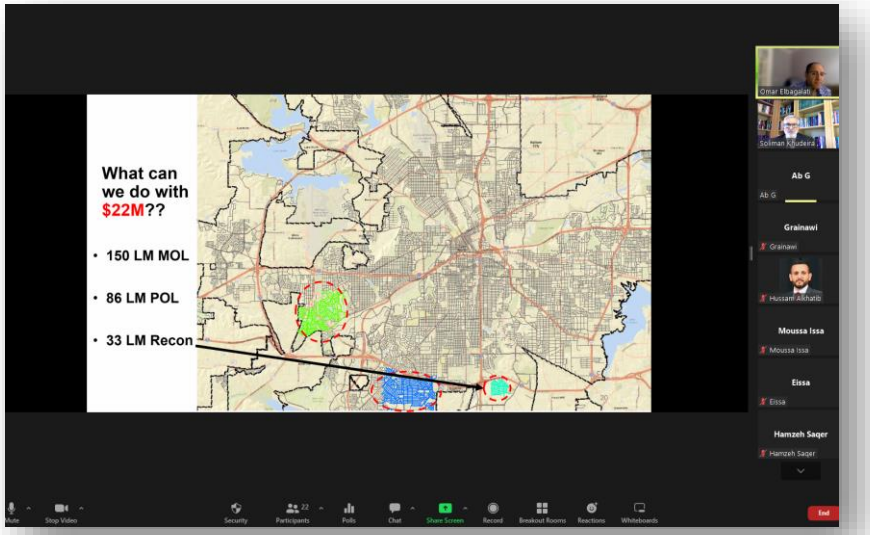

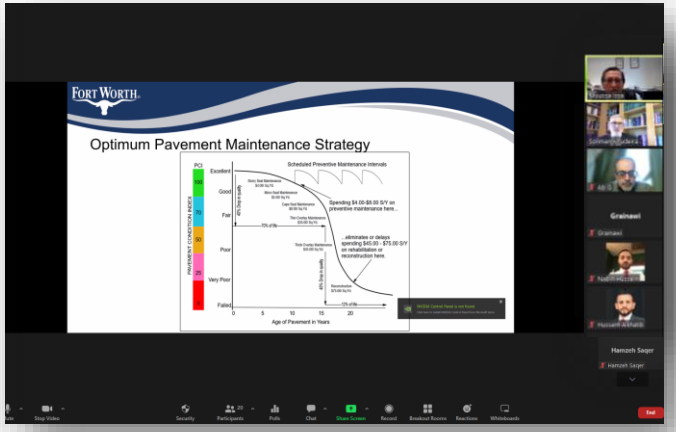

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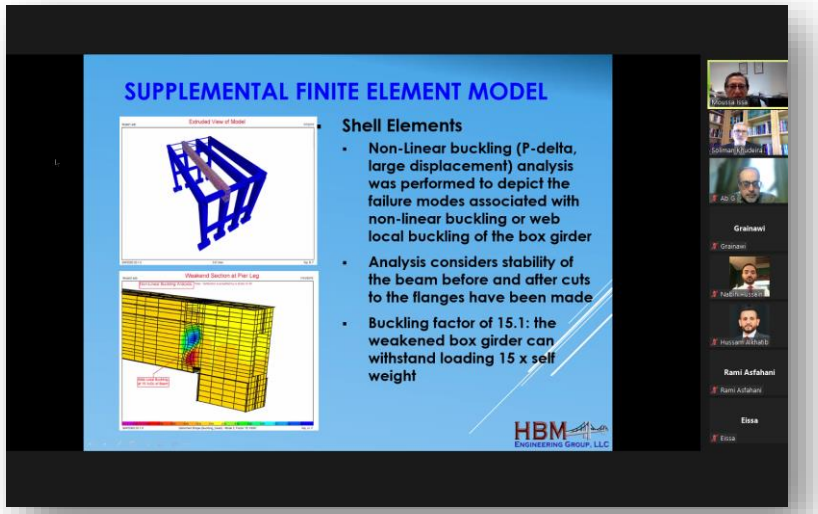
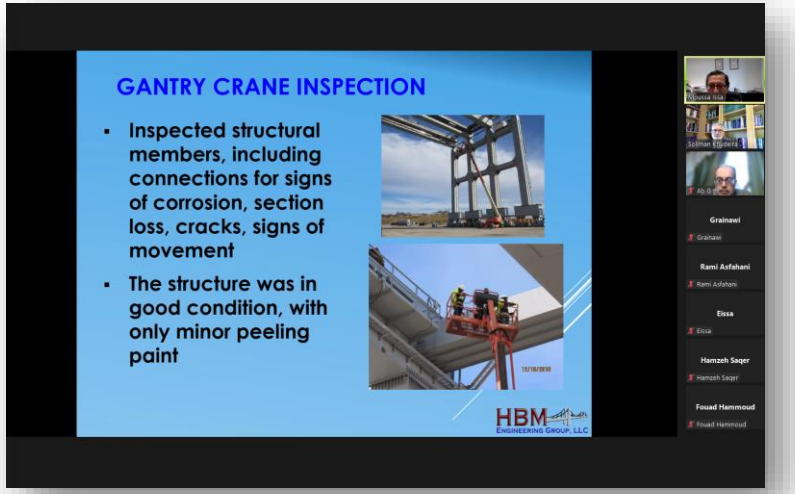
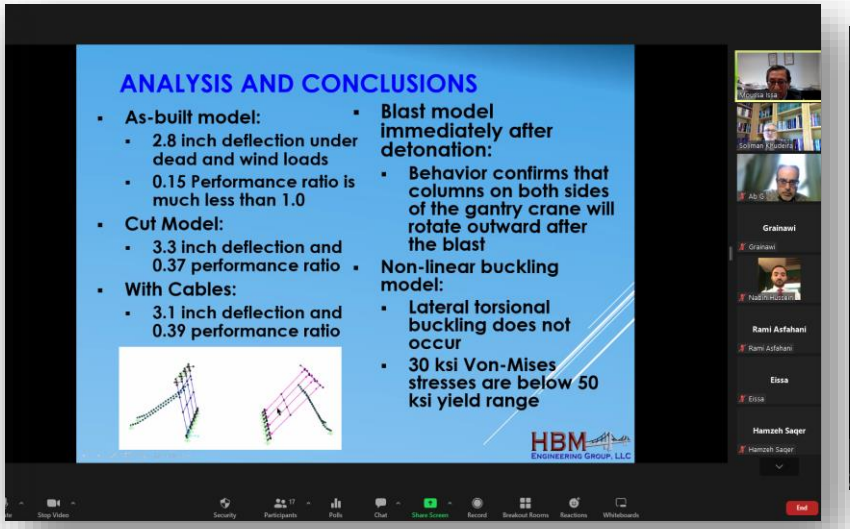
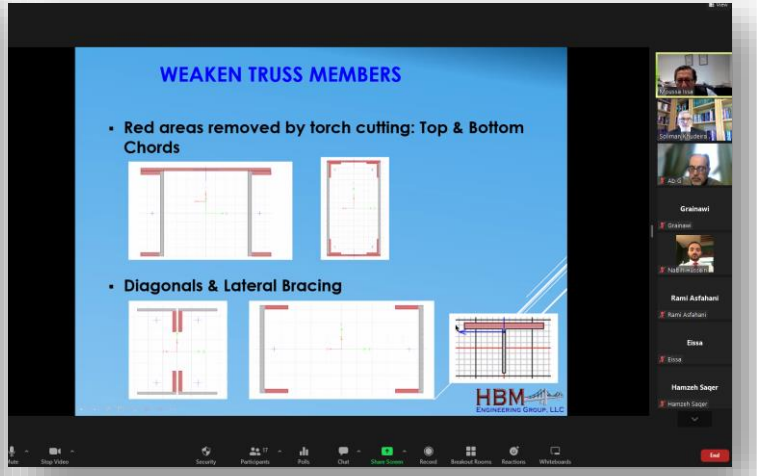








NAAAEA Resources:

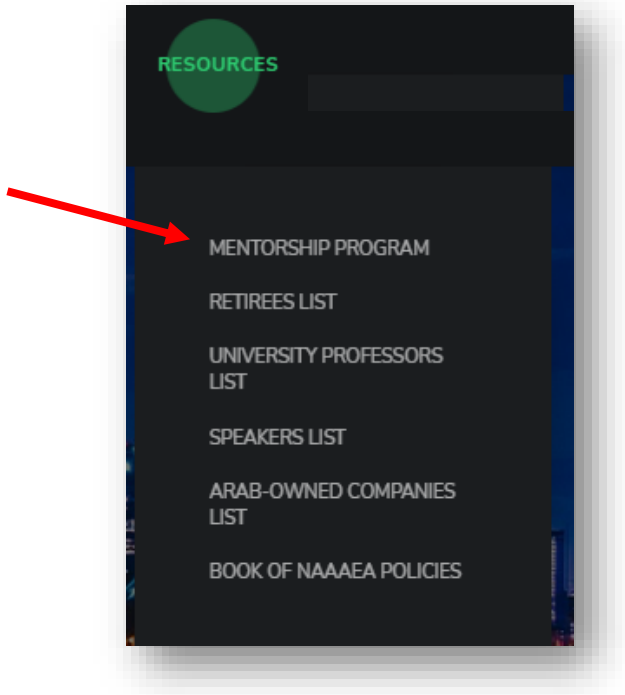
Mentorship Program

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.

Screen shot from the Website



NAAAEA Resources:

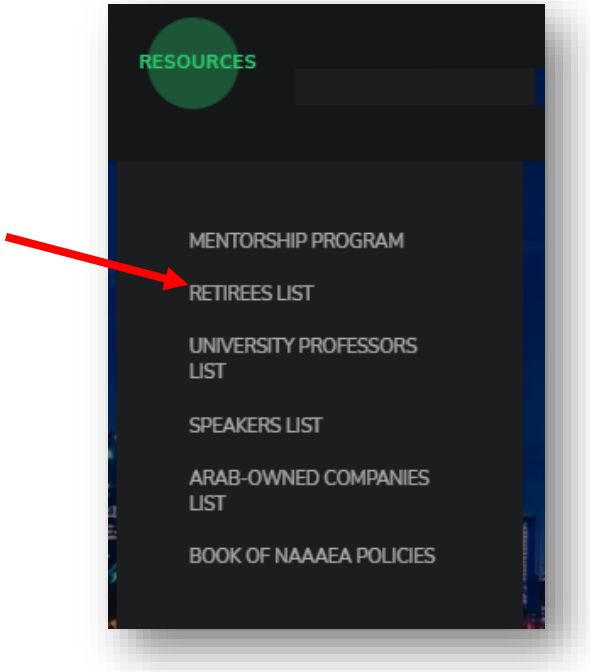
Retirees List

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 you name to the Retiree List, please visit https://nationalaaaea.org/ and enter your information the "Resources" tab.

Screen shot from the Website



NAAAEA Resources:

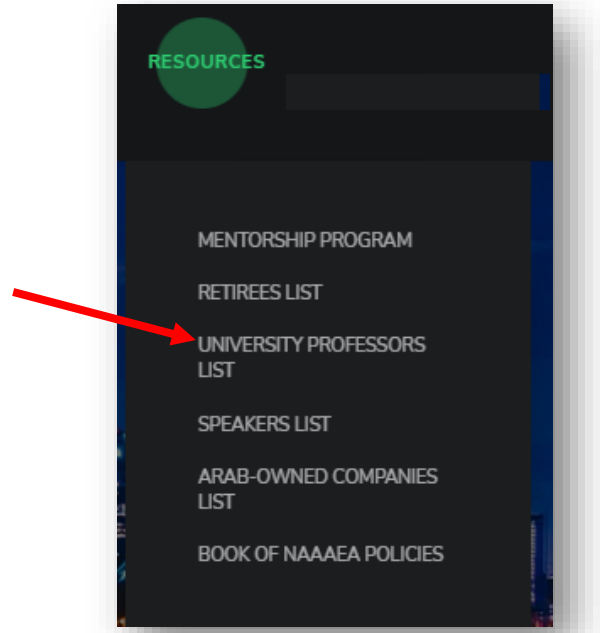
University Professors List

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 you name to the University Professors List , please visit https://nationalaaaea.org/ and enter your information the "Resources" tab.

Screen shot from the Website



NAAAEA Resources:

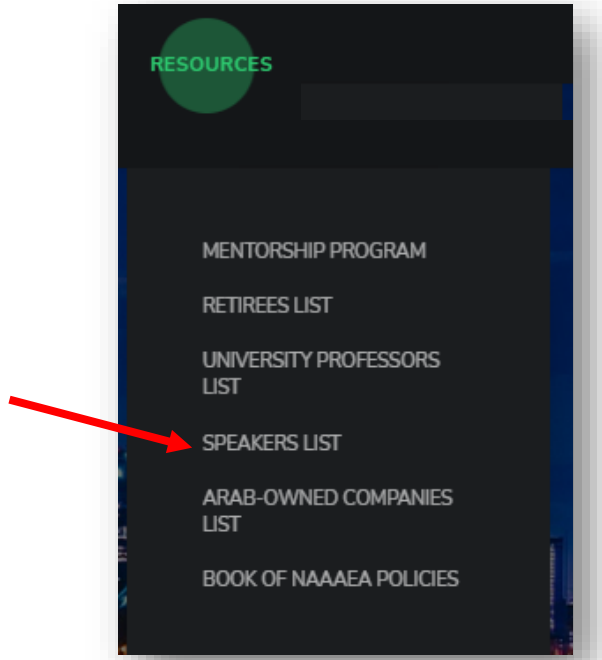
Speakers List

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 you name to the Speakers List , please visit https://nationalaaaea.org/ and enter your information the “Resources” tab.

Screen shot from the Website



NAAAEA Resources:

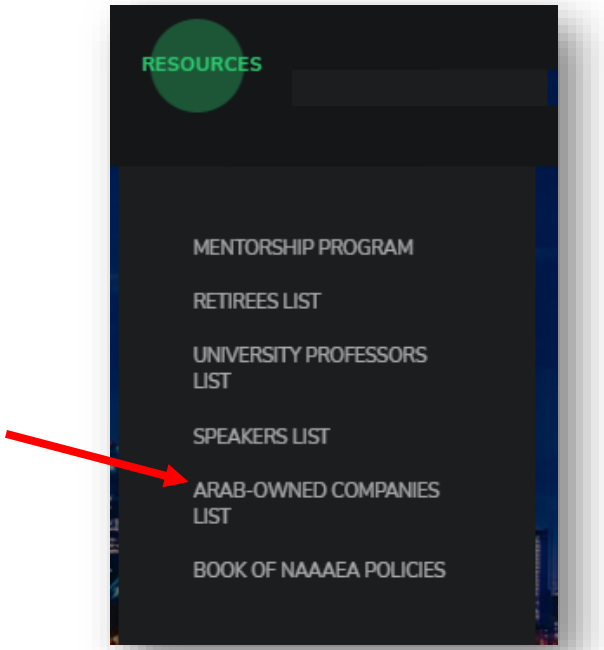
Arab-Owned Companied List

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 you company name to the Arab-Owned Companies List, please visit https://nationalaaaea.org/ and enter the information in the "Resources" tab.

Screen shot from the Website



NAAAEA Resources:

Book of NAAAEA Policies

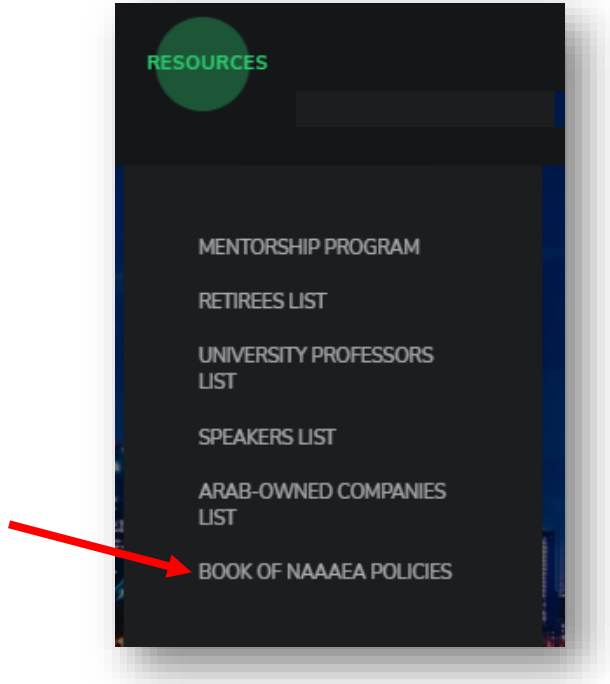
Book of NAAAEA Policies

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.

Screen shot from the Website



Educational Resources

Educational Resources

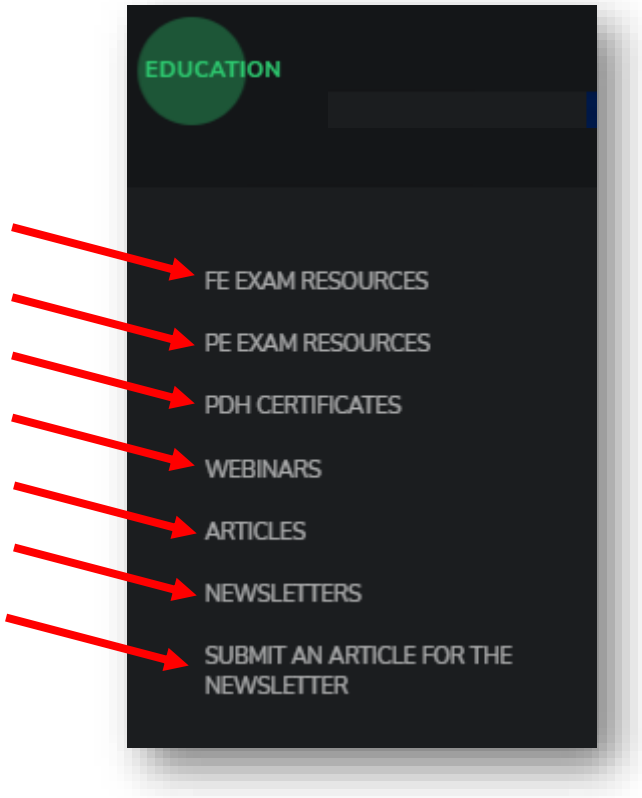
NAAAEA has various educational-related resources. See https://nationalaaaea.org/ website under "EDUCATION" tab.

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/) to prepare the materials and share with all Chapters.

Screen shot from the Website



Grant for NAAAEA Chapters

Grant for NAAAEA Chapters

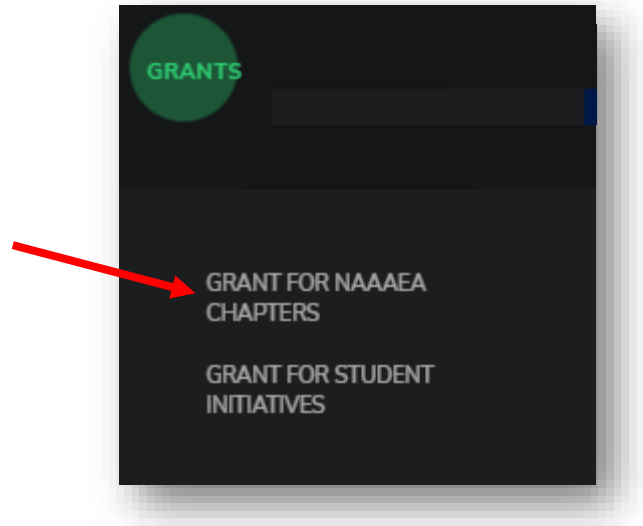
The NAAAEA Grant Program has been developed to assist the **chapters** in growing and promoting their activities.

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 break down of the requested amount. NAAAEA will award grant(s) based on the availability of funds.

Apply at
https://nationalaaaea.org/grant-program/

Screen shot from the Website



Grant for
Student Initiatives

Grant for Students Initiatives

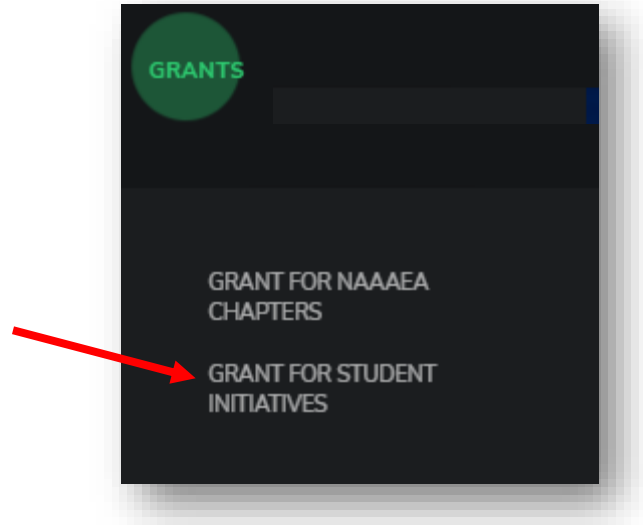
This NAAAEA Grant Program has been developed to assist **AAAEA students** to advance their initiatives into the application stage.

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/

Screen shot from the Website



NAAAEA Scholarship

NAAAEA Scholarship

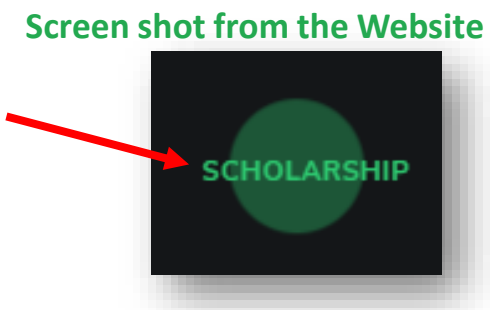
The NAAAEA scholarship was established by the National AAAEA and is presented to an Undergraduate or Graduate students in the areas of Engineering, Architecture, and Computer Science.

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

Screen shot from the Website



Career Center

Career Center

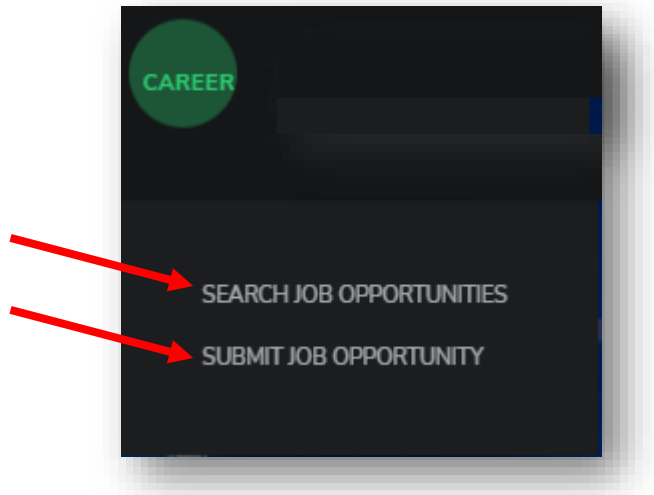
The National Career Center is one of the NAAAEA programs that strive to provide the members with services, programs, and resources to advance their career to the next level.

This tab include:

- **Search for Opportunity,** and
- **Submit Job Opportunity**

See https://nationalaaaaea.org/ website under "CAREER".

Screen shot from the Website



Article - Computer-Based Test (CBT) for the PE Civil Exam

Article

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 you 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

Photo Article - The Veluwemeer Aqueduct: Netherland's Unique Water Bridge

Photo Article

- 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

Submit and Article

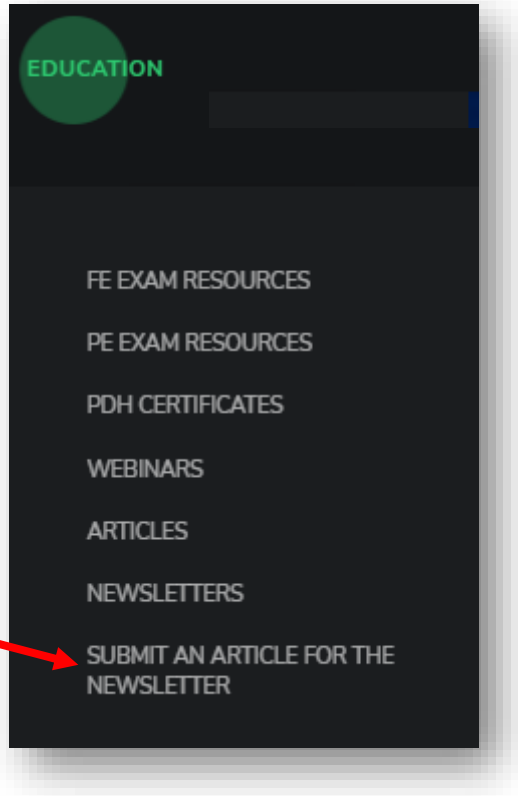
All are invited to submit an article to be published in the NAAAEA Newsletter. The article will also be uploaded to the NAAAEA website.

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://nationalaaaea.org/ website under "EDUCATION" tab "SUBMIT AN ARTICLE FOR THE NEWSLWTTER"

Screen shot from the Website



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://nationalaaaaea.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**.

Schedule of NAAAEA Executive Board Monthly Meetings

#	Monthly Meeting from 7:00 pm to 8:00 pm CST (Last Thursday of the Month)
1	1/26/2023
2	2/23/2023
3	3/30/2023
4	4/27/2023
5	5/25/2023
6	6/29/203
7	7/27/2023
8	8/31/2023
9	9/28/2023
10	10/26/2023
11	11/30/2023 - Thanksgiving day
12	12/28/2023

2023 NAAAEA National Executive Board (NEB) names and Contacts

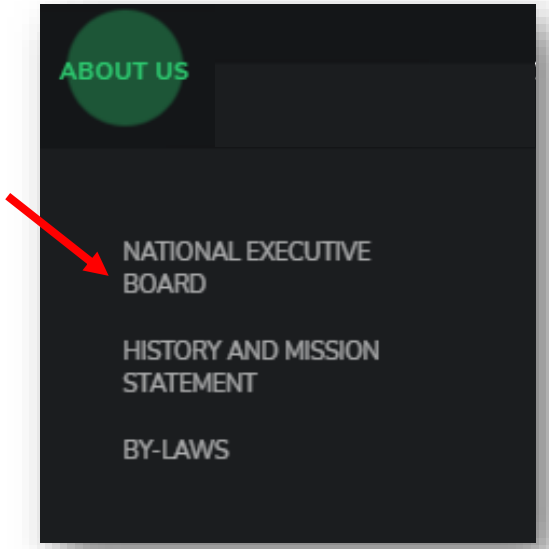
Contact us. Let us know **your needs**

2023 NAAAEA National Executive Board (NEB)

#	2023 NEB members	Chapter	NEB Position	Email
1	**Dr. Soliman Khudeira, PhD, SE, PE**	IL	President	Soliman.Khudeira@iit.edu
2	**Abder Rahman Ghouleh, PE**	IL	Vice President	arghouleh@gmail.com
3	**Nabih Hussein, PE**	TX/Houston	Secretary	nabihhussein@gmail.com
4	**Hussam Alkhatib, PE**	IL	Treasurer	hussam.alkhatib@graef-usa.com
5	**Rami Asfahani, PE**	IL	IT Committee Chair	ramiasfahani@gmail.com
6	**Nabil Khatib, EIT**	CO	Education Committee Chair	nabeal.khatib@yahoo.com

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

Screen shot from the Website



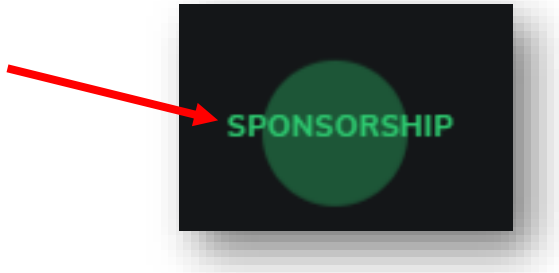
Sponsorship Opportunity

Sponsorship Opportunity

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.

Screen shot from the Website



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 Sponsors

Current NAAAEA Sponsors

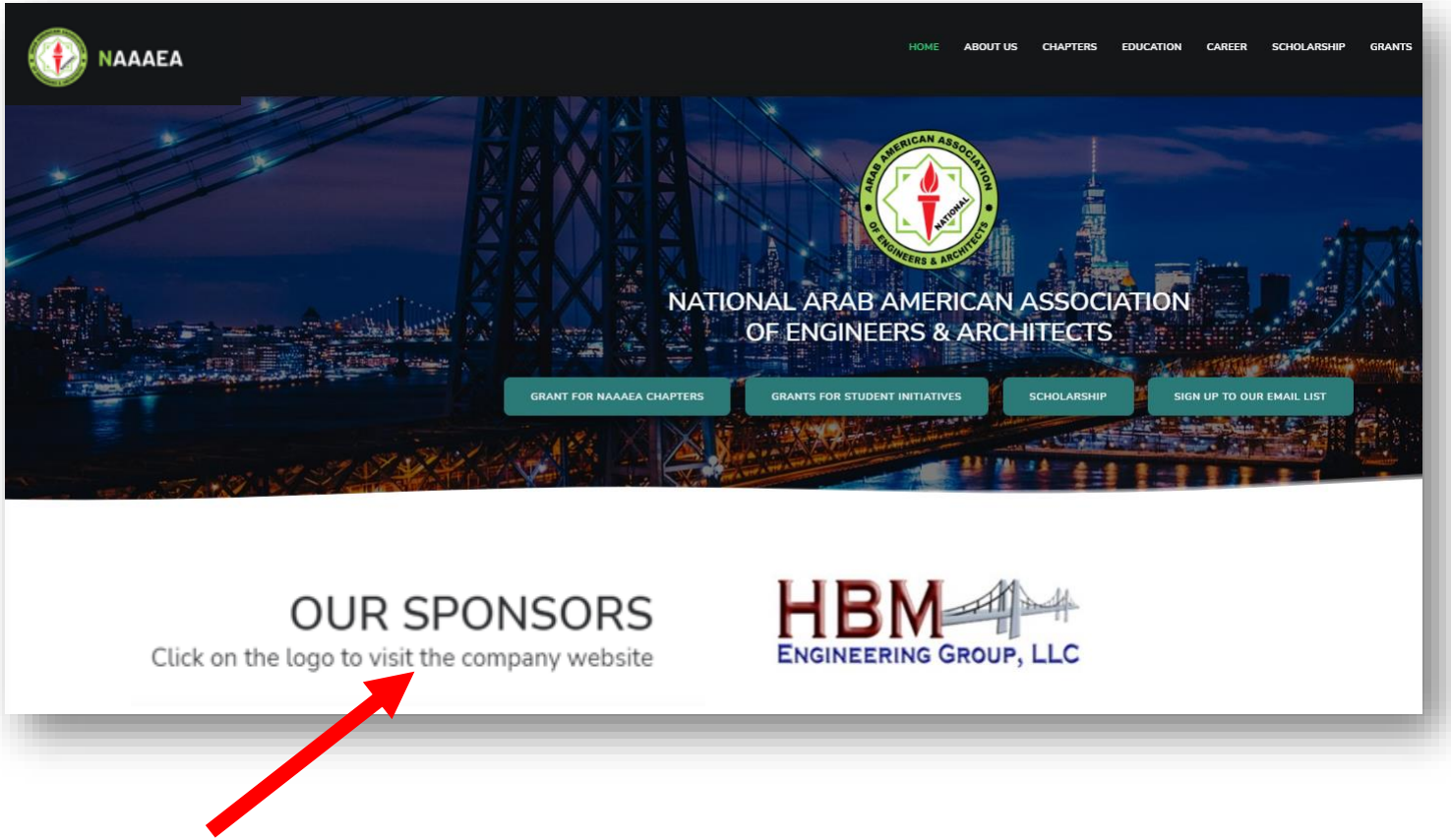
HBM Engineering Group, LLC
http://hbmengineering.com/

Terracon
https://www.terracon.com/

MILHEM Digital Transformation and Leadership
https://www.milhemdtl.com/

HVJ Associates
https://www.hvj.com/

Screen shot from the home page of the Website



Current NAAAEA Chapters

Current NAAAEA Chapters

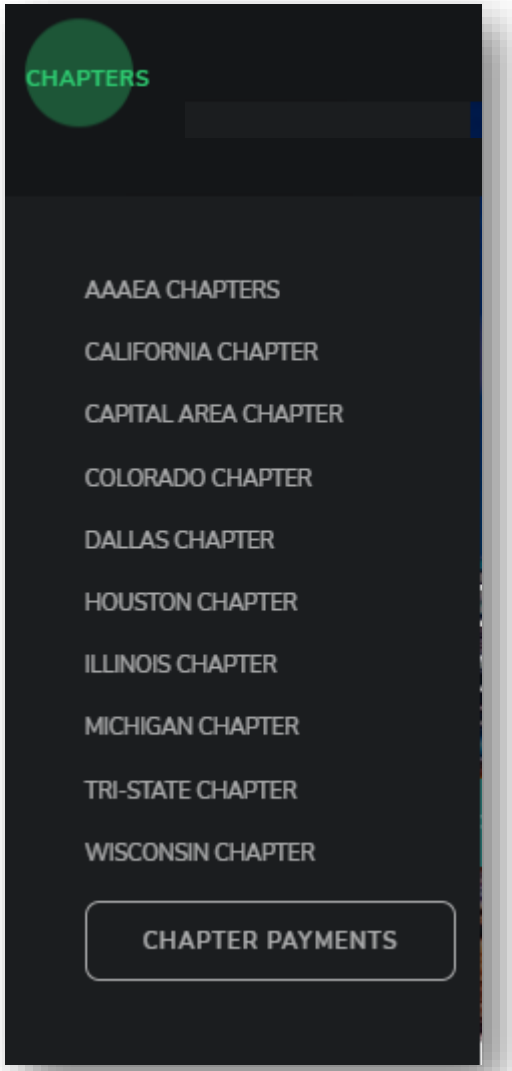
NAAAEA has currently nine Chapters listed below and shown on the map below.

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.

Screen shot from the Website



Interested in Forming a New NAAAEA Chapter?

Forming a New NAAAEA Chapter

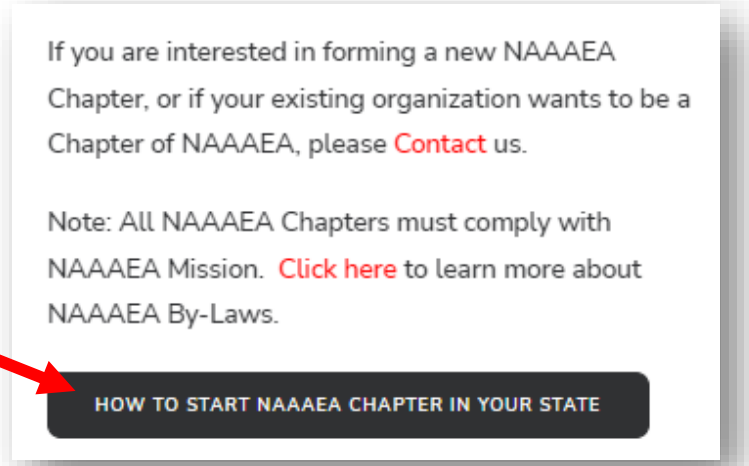
If you are interested in forming a new NAAAEA Chapter, or if your existing organization wants to be a Chapter of NAAAEA, please contact us at https://nationalaaaaea.org/contact-us/

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

Click on the link below to download "**How to Start NAAAEA Chapter in Your State**":
https://nationalaaaea.org/wp-content/uploads/2022/08/How-to-Start-an-NAAAEA-Chapter-in-your-State.pdf

Map showing the current NAAAEA nine chapters.
See https://nationalaaaea.org/ website under the "CHAPTERS" tab for a link to each chapter website

Screen shot from the Website



Policy and Guideline on How to Start NAAAEA Chapter in your State

NAAAEA Resources:

Start a New Chapter

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/ 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:

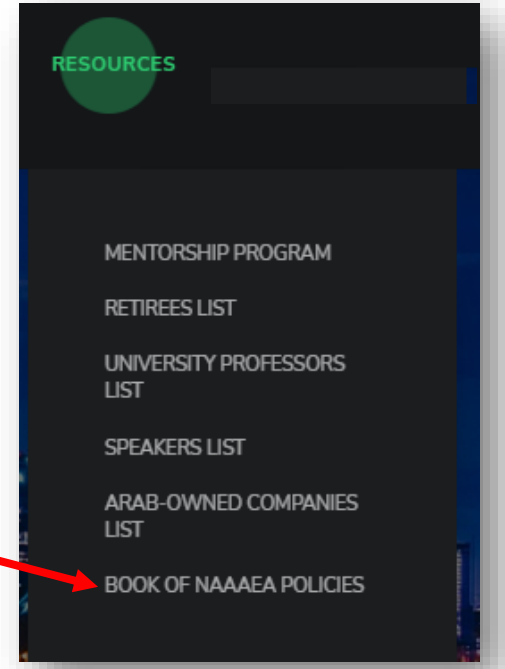
1. Elect officers from the group
2. Draft your own By-Laws (the National Board can assist)
3. Contact NAAAEA to provide you with your AAAEA State Logo
4. Establish a website (the National Board can assist)
5. Conduct monthly meetings
6. Establish Student Chapters in Universities in your state

NAAAEA Resources:

1. Visit https://nationalaaaea.org/ 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 in the "Chapters" tab

Screen shot from the Website



Outstanding Student Award

Awards:

Outstanding Student Award

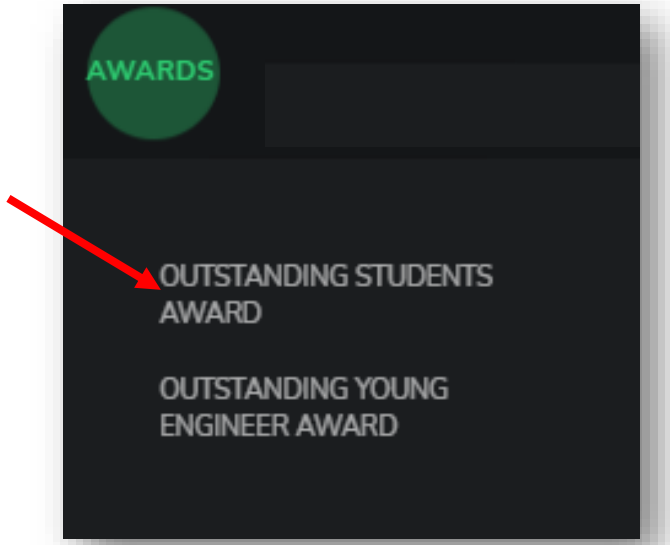
This NAAAEA **Outstanding Student Award** has been developed to encourage college students, who are members of any Chapter of NAAAEA, to be active with AAAEA and other professional associations, to volunteer their time with their community activities, and to be accomplished students at their university.

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.

Screen shot from the Website



Awards:

Outstanding Young Engineer Award

Outstanding Young Engineer Award

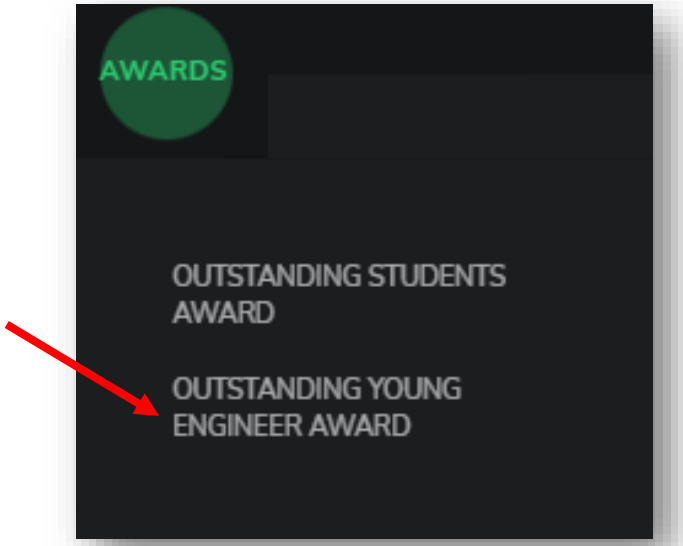
This NAAAEA **Outstanding Young Engineer Award** has been developed to encourage young AAAEA members to be active with AAAEA and other professional organizations, obtain professional licensed early in their career, and encourage volunteerism in community activities.

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://nationalaaaea.org/ website under "AWARDS" to apply for this award

Screen shot from the Website



Projects by NAAAEA

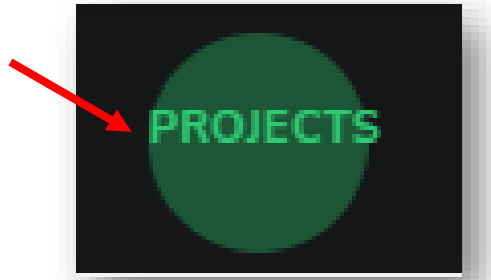
The NAAAEA **Projects Program** is developed to provide technical assistance and initiate new projects in areas throughout the world, but especially in the Middle East. This program is modeled after the **Engineers Without Borders (EWB)** programs. However, the NAAAEA projects will be mainly in the Middle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

Projects by NAAAEA

WHAT IS NEEDED FROM ALL

1. AAAEA 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.

Screen shot from the Website

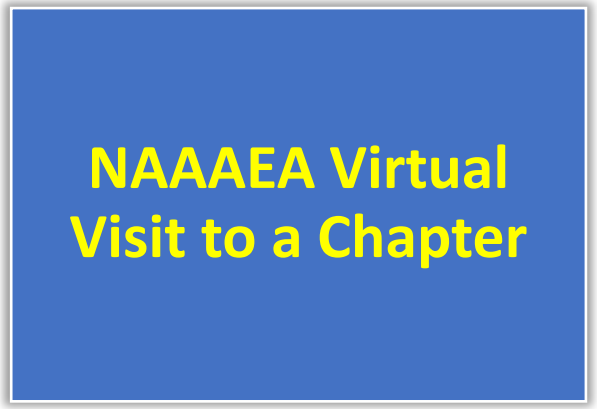


TYPE OF POTENTIAL PROJECTS

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
3. Identify your Chapter's needs and how NAAAAA can help
4. Any other related topic your board want to discuss

The Chapter can either schedule a septate 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

Sign Up to Our Email List

Go to https://nationalaaaea.org

On the Home page, Click on **"Sign up to our Email List"**

Contact Us

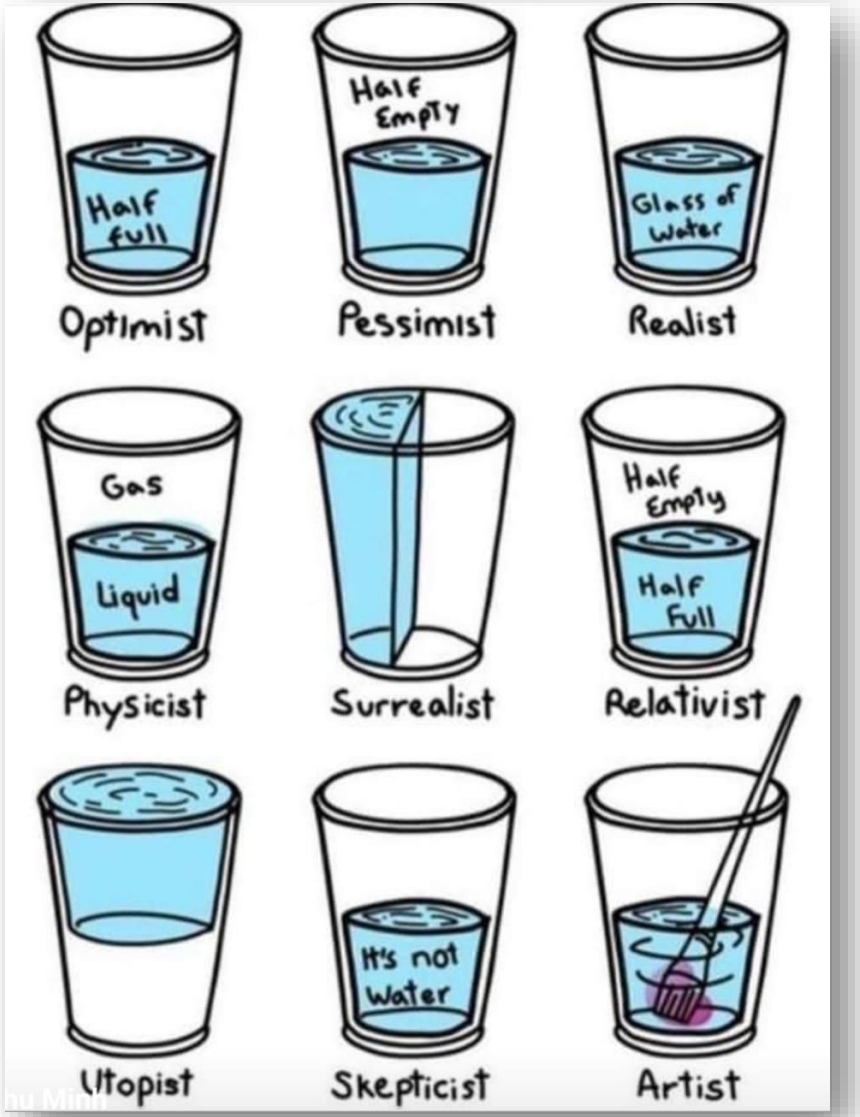
Contact NAAAEA

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

Open Corner

Open Corner

Physics Equations

Force

$$\sum \mathbf{F} = \frac{d\mathbf{p}}{dt} = \frac{d(m\mathbf{v})}{dt}$$

$$\sum \mathbf{F} = m\mathbf{a} \quad \text{(Constant Mass)}$$

Acceleration

$$\mathbf{a}_{\text{average}} = \frac{\Delta \mathbf{v}}{\Delta t}$$

$$\mathbf{a} = \frac{d\mathbf{v}}{dt} = \frac{d^2\mathbf{s}}{dt^2}$$

Variance

$$s^2 = \frac{1}{N}\sum_{i=1}^{N}\left(x_i - \bar{x}\right)^2$$

Impulse

$$\mathbf{J} = \Delta \mathbf{p} = \int \mathbf{F} dt$$

$$\mathbf{J} = \mathbf{F}\Delta t \quad \text{if F is constant}$$

Velocity

$$\mathbf{v}_{\text{average}} = \frac{\Delta \mathbf{d}}{\Delta t}$$

$$\mathbf{v} = \frac{d\mathbf{s}}{dt}$$

Kinetic Energy

$$T = \frac{1}{2}mv^2$$

Gravity

$$F = \frac{Gm_1m_2}{r^2}$$

Mass Energy

$$E = mc^2$$

Density

$$\rho = \frac{m}{v}$$

Motion

$$v = v_0 + at$$

$$s = \frac{1}{2}(v_0 + v)t$$

$$s = v_0t + \frac{1}{2}at^2$$

$$v^2 = v_0^2 + 2as$$

Torque

$$\sum \tau = \frac{d\mathbf{L}}{dt}$$

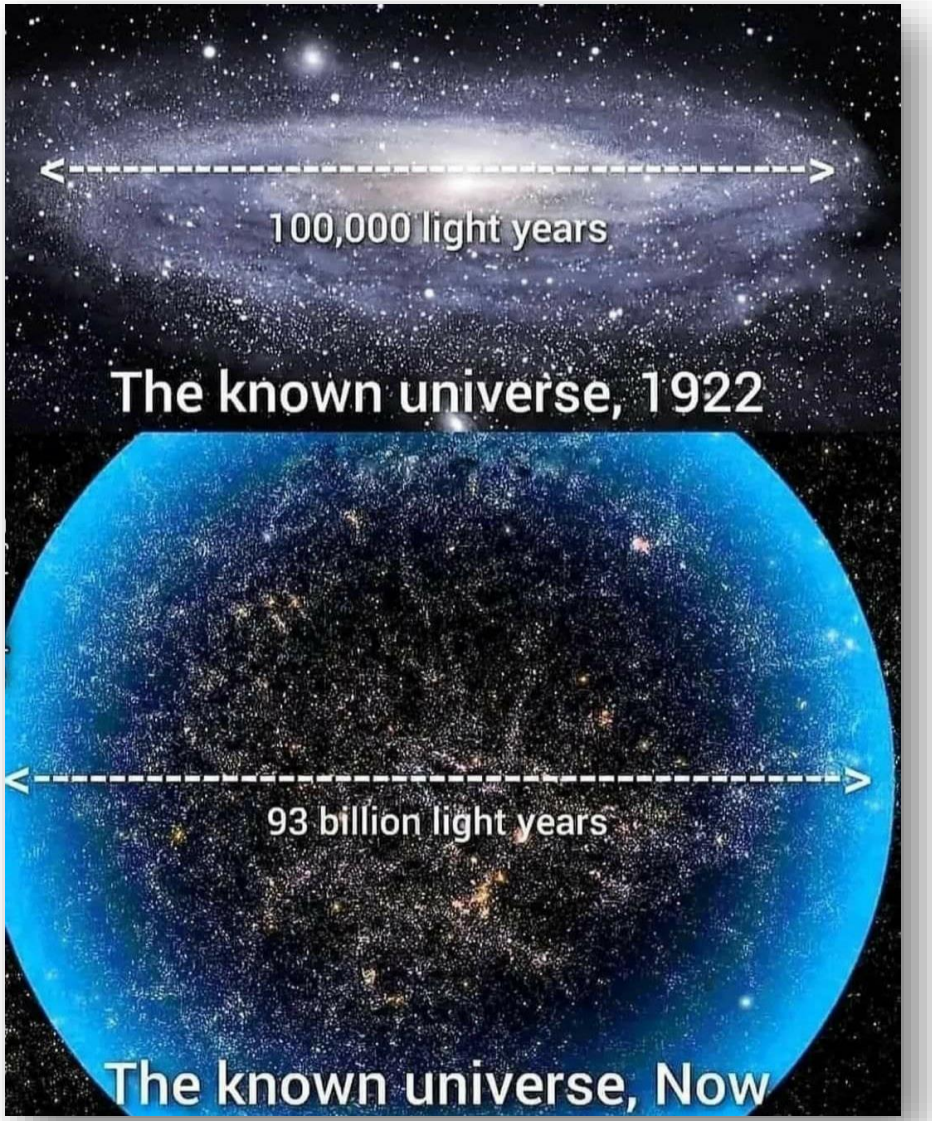
$$\sum \tau = \mathbf{r} \times \mathbf{F}$$

Drude Law

$$\alpha = \frac{k}{\lambda^2 - \lambda_0^2}$$

Charge

$$Q = It$$



Open Corner

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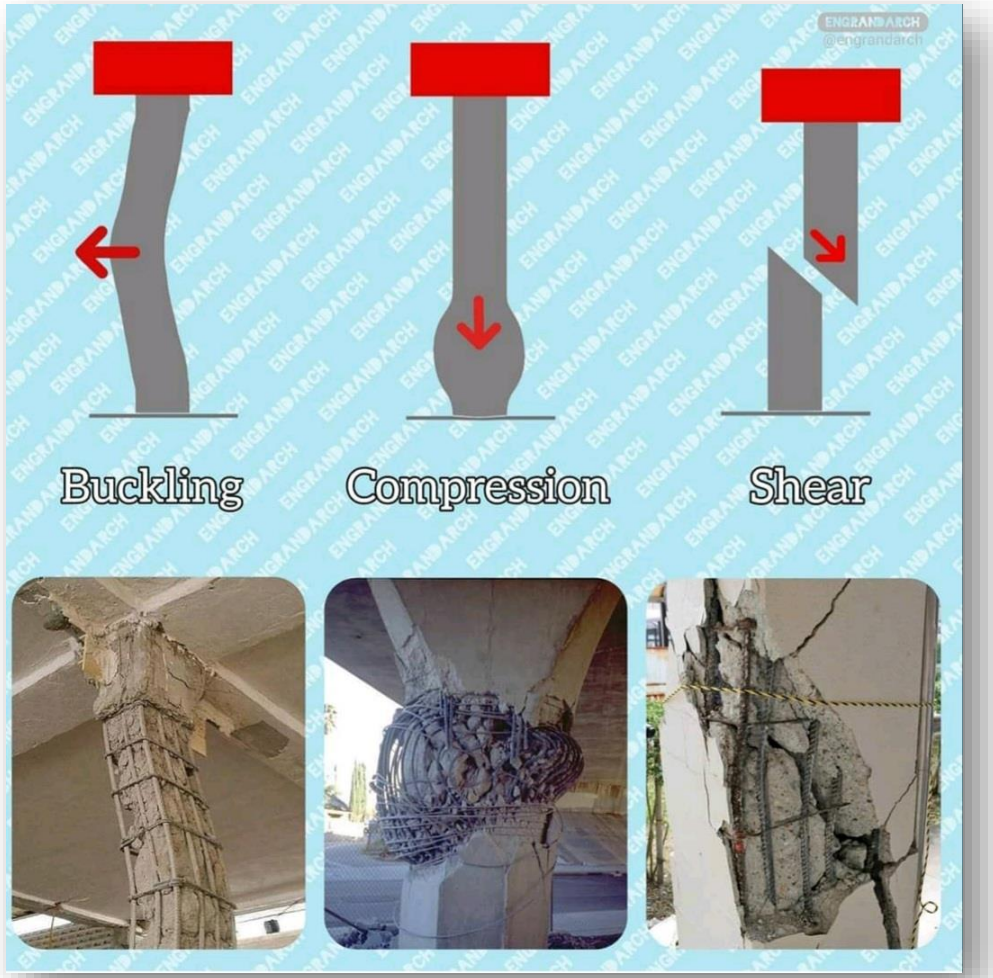

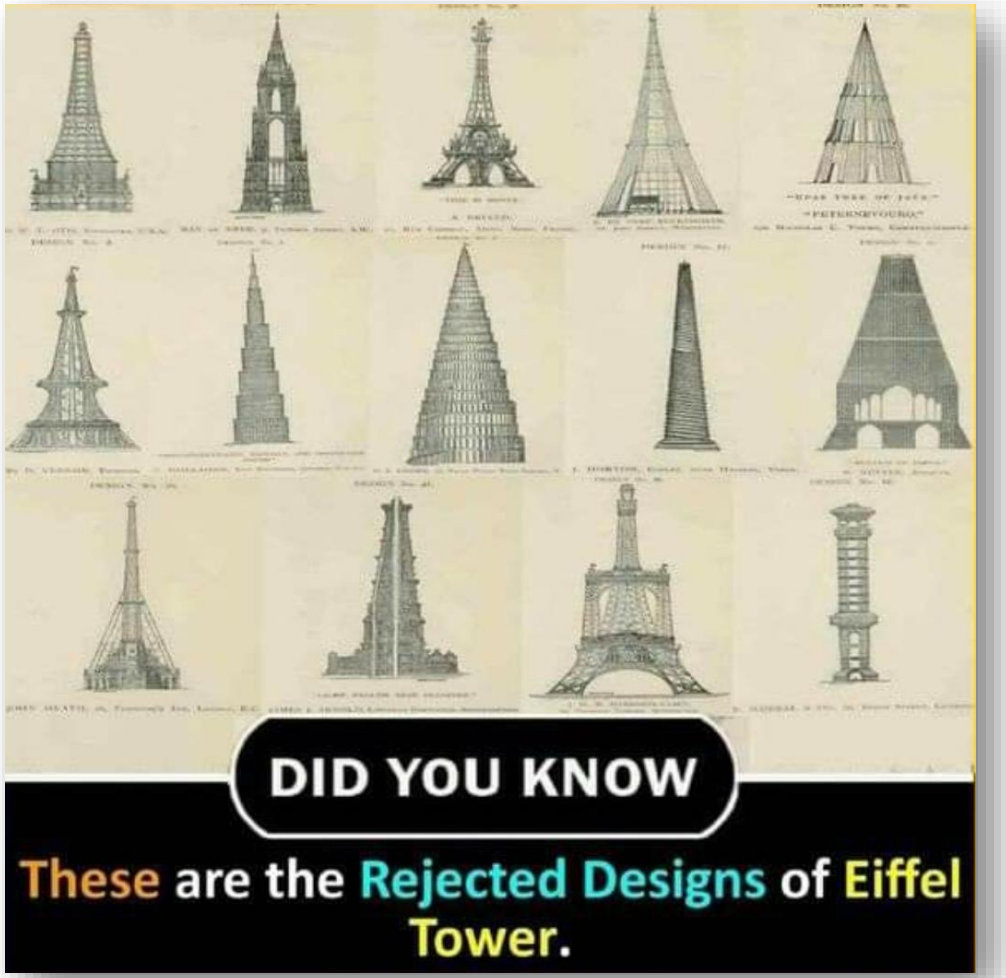

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