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JSPE Magazine Quarterly

The Japan Society of Professional Engineers



Special Feature

- Report on 22nd JSPE Annual Meeting

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Wooden Society (World Heritage Site)

It is a wooden association located in Poland Swidnica. In the 17th century, using only timber, clay, sand and straw, in a short construction period of one year, It seems that it was built. Throughout the ages, the knowledge and ingenuity of engineers have solved problems. Keep doing.

This year, we held an ordinary general meeting on Saturday, June 11 in a hybrid format using both the venue and the web. At the venue, Tokyo Grand Hotel, 9 regular members, including board members, and about 30 regular members of web participated in the "Annual Meeting" of Part 1 and the "Special CPD Seminar" of Part 2. The proceedings of the general meeting can be viewed on youtube below.

https://youtu.be/XgDos_ZLubE

Part 1: Annual Meeting

The 22nd Annual Meeting was attended by 85 regular members (total number of attendees at the venue and web, as well as the exercise of prior voting rights and the number of delegates), and after confirming the requirements for the formation of the Annual Meeting, Annual Activity Report and Financial Results Report in Fiscal Year 2021 (Agenda Item 1), Amendment to the Articles of Incorporation (Agenda No. 2), and Draft Activity Plan and Budget for Fiscal Year 2022 (Agenda No.3) was discussed. In addition, PEN members and FE members also participated through web distribution.

Next, he was greeted by a video letter from NSPE Chairman Rick Guerra, who was unable to visit Japan this year due to the coronavirus.



Congratulatory Message from President Rick Guerra (Video Message)

Regarding the agenda items for the General Meeting, Chairman Nishikubo, who is the chairperson, stated that 20 2 Regarding the results and financial results of activities for the first fiscal year, the annual goals of the activity policy of "reconstructing the image of PE required by society" are (1) promotion of communication to the outside world, (2) continuation of member exchanges and improvement of services , (3) Organizing the activity menu, 3 points activity results, 2 Implementation of renewable energy study sessions, VISION2030 In addition to introducing the results of the plan, utilization of SNS, and multilingual support of the website, issues such as maintaining and increasing the number of members and implementing member exchanges were also discussed. In addition, awards were given to members who contributed greatly to JSPE in fiscal year 2021, and award members were announced. After a question-and-answer session on these activity reports was held with the members, the first agenda item was approved.

Fiscal Year 2021 Commendation Member

Sharing the results of study sessions on renewable energy

PE-0279	Yoshihide Shinkawa P.E.	PE-0165	Shigeya Furuya P.E.
PE-0083	Hidemi Yanagi P.E.	PE-0292	Yuta Sasaoka P.E.
PN-0203	FAN TIANFENG	PE-0268	Manabu Tanda P.E.
PE-0145	Yu Suzuki P.E.		

Contribution to CPD Seminars (Lectures)

PE-0145	Yu Suzuki P.E.	PE-0305	Masao Ishihama P.E.
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In addition, Agenda No. 2 to amend the Articles of Incorporation was submitted with the following two points as the main points, and it was approved for deliberation.

- Previously, the convocation of a general meeting, voting rights, minutes, meetings of the Board of Directors, convocation, voting rights, etc. were all only communicated using "documents," but in order to promote the efficiency of digitization and operational operations, the method of communication using "written or electromagnetic methods" will be changed.
- In addition, with regard to the minutes of meetings of the General Assembly and the Board of Directors, the "signature and seal" required by the signatory of the minutes will be changed to "registered seal or signature."

Regarding the Activity plan in Fiscal Year 2022, Chairman Nishikubo stated that the slogan was "Create a Great Base Camp for PEs in Japan." I explained the following outline and activation policy.

2022 JSPE
Annual General Meeting

活動方針案

国内PEのためのベースキャンプ構築
Create a Great Base Camp for PEs in Japan

1. CPDセミナーに関する会員満足度の充足と拡大
2. 世代間交流の促進と会員ネットワークの拡大
3. 会内情報の対外発信の強化

JSPE22-006 Jun 11, 2022 © JSPE 38

Draft Action Policy and Outline for FY2022

The specific contents of each outline are as follows.

- Satisfy and expand member satisfaction with CPD seminars
As for the format of the course, we will continue to consider a system that can support not only conventional live viewing but also on-demand recorded viewing to eliminate the time constraints of participants. In addition, in addition to conventional examples of lectures

given by domestic companies, seminars by external lecturers, including those from overseas, will be held to provide opportunities for diverse self-improvement. In addition, by encouraging members to utilize the external information collection assistance system, etc., it will be possible to provide opportunities for continuous learning on various themes other than JSPE selection. Furthermore, in addition to simply attending seminars, members will participate in themes of interest themselves, and by combining them with a study group type that shares exchanges between members and survey results, we will also aim to satisfy the member exchanges that were lacking due to the corona disaster. In addition, in order to secure the resources necessary for the operation and improvement of seminars, we will improve the efficiency of the management practice of the association and utilize external resources.

- Promotion of intergenerational exchange and expansion of membership networks
In 2020, JSPE celebrated its 20th anniversary, but members from the early days tend to leave due to retirement as engineers. Although a senior membership system has been established, it has not been effective in maintaining the number of members. Since maintaining and increasing the number of members is necessary for the sustainability and diversity of the Association, we will first inform examinees that the services provided by JSPE will be beneficial from before the FE examination to after PE registration through cooperation with JPEC, and will guide them to JSPE. In addition, by strengthening the lobbying at universities and SNS, we will promote the enrollment of student members who will become engineers of the future.
- Strengthening the dissemination of intra-association information to the outside world
With the establishment of PR activities through SNS for CPD seminars, non-members and the general public have more opportunities to see JSPE activities. In addition to continuing to search for effective ways to disseminate information, including the addition of advertising media, we will improve public awareness of JSPE's activities by expanding public relations activities in areas and contents that have been poorly disseminated to the outside world, such as PE qualifications and systems, the importance of PE and its role in society, introduction of NSPE and NCEES activities, writing books, and the public release of some magazine articles. At the same time, by identifying and organizing the various stakeholders involved in JSPE, such as JSPE members and non-members, PE holders and non-members, and age groups, we will determine the direction in which communication should be strengthened.

In order to realize these action policies, it was stated that we will proceed with eight action plans as shown in the following figure. After a question-and-answer session with the members on the details of the specific activities, the third proposal was approved.

アクションプラン(概要)

- (1)社会への影響度（会員数）の増加：潜在ST/AF/FE/PEN会員の誘導
 - (2)JSPEの認知度の向上
 - (3)セミナー利便性の最大化
 - (4)継続教育機会の拡大
 - (5)NSPE等海外エンジニア団体との関係強化
 - (6)会員ニーズ、JSPEの価値の再定義
 - (7)会員活動の活性化
 - (8)運営リソースの転換：内向きから外向きへ
- ※詳細は議案書を参照下さい。

いずれの活動も理事だけで実現できるものではなく、JSPE会員が一体となることで実現できるものです。会員の皆様の積極的な協力をお願いします。
※部会員として協力いただける方はwebmaster@jspe.orgまで連絡ください。

Outline of the Action Plan for Fiscal Year 2022



Chairman Nishikubo explains the draft activity policy for Fiscal Year 2022 (Tokyo Grand Hotel)

Based on the opinions received at the general meeting, all officers will engage in their duties, so we ask for your continued opinions and participation.

The Members' Meeting Proposal, Minutes, and NSPE President's Video Letter can be viewed from the "Board of Directors and General Meeting Minutes" tab after logging in to the members page of the JSPE website.

<https://www.jspe.org/member/report/>

Composition of the 2022 Executive Committee

部会	担当役員
事務局	森山 亮（事務局長）、西久保 東功（会長） 稲葉 光亮（副会長）、小口 力（副会長）、各部会長
企画部会	西久保 東功（部会長）、森山 亮（副部会長）、伊藤 博史（副部会長） 竹政 一夫、本多 亮悟、佐藤 寿和
広報部会	西久保 東功（部会長）、藤村 宣孝（副部会長）、佐藤 寿和（副部会長） 森山 亮、伊藤 博史
渉外部会	森山 亮（部会長）、太田 量介（副部会長）、本多 亮悟（副部会長） 竹政 一夫
教育部会	太田 量介（部会長）、稲葉 光亮（副部会長） 森山 亮、西久保 東功、藤村 宣孝、本多 亮悟、浅田 剛
会員部会	森口 智規（部会長）、小口力（副部会長）、浅田 剛（副部会長）、 佐藤 寿和、藤村 宣孝
会計部会	稲葉 光亮（部会長）、小口 力（副部会長）、 西久保 東功、伊藤 博史、浅田 剛

Part 2 Special CPD Seminar

In the Special CPD Seminar of Part 2, Prof. Jun Fudano of Waseda University gave a lecture titled "Engineering Ethics 2.0: For Ones, Organizations, and the Well-Being of Society."

VUCA such as Volatility, Uncertainty, Complexity, and Ambiguity As the situation accelerates and a new, faster and more comprehensive decision-making and action process is required, Well-being is important and the ethics of aspirations. I learned about the role of Aspirational Ethics. I would like to take this opportunity to express my gratitude once again to Prof. Fudano, who gave a lecture during your busy time.



Prof. Fudano (Tokyo Grand Hotel)

At last

This year, we invited attendees to the venue and held the annual meeting in a hybrid with web. While gradually increasing opportunities for face-to-face interaction with members, we would like to expand services for members, so please continue to look forward to your continued support.



Commemorative photo with Prof. Fudano after the event (Tokyo Grand Hotel)

(All JSPE executives)

The following members have newly registered as PE or passed the FE/PE exam by June 2022. Congratulations to all of you.

*From Fall 2018 issue (Vol.43), the text of the experience report is posted on the web.

<https://www.jspe.org/member/magazine/magazine-index/>

* Some browsers may not be able to open the file normally. If you have problems, please reopen the file in another browser or copy and paste the URL.

(Browsers verified to work: Google Chrome, Microsoft Edge, Internet Explorer)

* The latest examination information and the path to passing and registering are very valuable information, so if you are a member who can provide information, please contact the Public Relations Subcommittee (public.2007@jspe.org).

PE Registration

Membership Number Identity	Registered State field	Date of Registration	Testimonials URL
PE-0316 Hong Son NGUYEN	Oregon	2022/03	https://www.jspe.org/member/wp-content/uploads/sites/2/2022/06/2022_OR_civil.pdf
PE-0319 Takashi Iwanaga	Texas	2022/05	https://www.jspe.org/member/wp-content/uploads/sites/2/2022/06/2022_TX_civil.pdf

PE Update

Membership Number identity	Registered State field	Date of Registration	Testimonials URL
PE-0253 Tokoh Nishikubo	Delaware	2022/06	https://www.jspe.org/member/wp-content/uploads/sites/2/2022/06/2022_DE_renewal.pdf

FE Testing

Membership Number identity	field	Exam Date	Testimonials URL
FE-0427 Mitsuo Nakamura	Electrical and Computer	2022/05	https://www.jspe.org/member/wp-content/uploads/sites/2/2022/06/202205_FE.pdf

3 Ethics

March/April 2020

2020年 3月/4月号

On Ethics: You Be the Judge
Play Time or Pay-to-Play Time?

倫理： あなたが審判
役務の奉仕か代償を求める役務の提供か？

A new playground will benefit the community—and maybe a public official.

新しく作る運動場は人々に恩恵を与える。又役人にもメリットがある。

Situation

Kate Gleason is the owner of an engineering firm in a small town. Gleason and her firm frequently perform engineering services for the town and also for other local agencies that are overseen by the town council. Recently, Gleason and her firm were selected by a local agency to design a major public project in the town. Following the firm's completion of the project, Dale Worden, the town engineer who leads a panel that approves the selection of engineering firms performing services for the town and other local agencies, asks Gleason and her firm to donate engineering services to design a playground on behalf of a local not-for-profit organization that the city council member is active in and supports. Before Gleason has a chance to reply, Worden advises Gleason that her firm's design of the playground will "keep her and her firm in good graces" with Worden regarding future work with the town or other public work.

状況

Kate Gleason は比較小さい都市のエンジニアリング会社のオーナーである。Gleason と彼女の会社はその都市の役所からの依頼及び都市議会管理の地元出先機関のエンジニアリングサービスを頻繁に行っている。

Gleason と彼女の会社はその都市の大規模公共プロジェクトの設計に携わる出先機関として選出された。その都市の技術者で都市及び地元出先機関が発注するサービスのエンジニアリング会社の選定の承認を行う委員会のリーダーで、その都市のエンジニアである Dale Worden は、プロジェクト契約の成立後、Gleason と彼女の会社に対して、市の委員会メンバーで非営利団体として活動しサポートしている地元の非営利団体の為に、運動場の設計を無償で行うよう依頼した。

Gleason が回答する前に、Worden は、もし運動場の設計を行ってくれた場合、将来のその都市や他の公共事業に対して Gleason と彼女の会社にメリットがあることをほのめかした。

What Do You Think?

Was it ethical, under the facts, for Worden to ask Gleason and her firm to

あなたはどうか考えるか？

Worden は市の委員会メンバーでその非営利団体で活動しサポートしており、

donate engineering services to design a playground on behalf of a local not-for-profit organization that the city council member is active in and supports?

Would it be ethical for Gleason to donate engineering services for the playground design under the circumstances?

What the Board of Ethical Review Said

The obligation of professional engineers to be of constructive service to the community and serve the public interest has been a hallmark of professional engineering. Professional engineers contribute to communities by serving on public boards and civic groups, volunteering with not-for-profit community and youth groups, supporting and contributing to important public and private initiatives, and in many other ways.

In performing their professional services, professional engineers must be mindful that such service is personal in nature and a reflection of their values and commitment. Such service in many ways reflects who they are as professionals but should be viewed as separate and apart from what should be expected from them in their business relations with clients. To this point, it would be a mistake for either a professional engineer or a client to mix or confuse an individual's role in performing as a professional engineer and the individual's role in making contributions to the public. While these two roles may be complementary, there is a potential danger

その非営利団体の為に運動場を無償で行う依頼を Gleason と彼女の会社に対して行うことは倫理上問題ないか？

この状況下で Gleason が運動場のエンジニアリングサービスを無償で行うことは倫理上問題ないか？

NSPE 倫理審査委員会の見解

P.E.の責務である公共に対する有益な活動及び建設的なサービスは P.E.の顕著な特長である。

P.E.は、公共の委員会や市民グループへのサービス、非営利団体や若者の団体とのボランティア活動、重要な公共そして民間の取り組みをサポートし貢献すること、その他方法によって、地域社会に貢献するものである。

これらの技術的サービスを行うに当たり、P.E.はそれらのサービスは彼らの価値と献身を反映し、実際に自主的である事を心がけなければならない。

これらのサービスは行う事によりいろいろな状況下で P.E.に反響が出てくるが、ビジネスの客との関係から切り離さなければならない。

この点に関して、P.E.の本来のエンジニアリングサービス業務と、P.E.が公共への奉仕活動を P.E.も顧客も共に、混同する間違いを起こす。

これらの二つの役務は別々であり、混同すると

when the two are intermingled.

In this case, a representative of a public client (Worden) has an expectation (and express authority) that a professional engineer (Gleason) will donate engineering services which, while a public good (the design of a local playground) that will benefit the community, will also have the effect of enhancing the personal and political interests of the representative of the public client (Worden). In effect, Gleason and her firm are under a degree of duress—the implicit promise of future work or the withholding of future work—if Gleason does not accede to Worden’s personal request to donate services.

The NSPE Board of Ethical Review has considered cases involving gifts to public officials, including state department of transportation employees. In BER Case 05-6, the BER was faced with a series of gift scenarios and in conclusion noted that engineers must be mindful of all rules and regulations that would apply to government employees and would ultimately govern. Engineers have an obligation to adhere to those rules and regulations, which may prohibit the receipt of such gifts. In addition, for parties contracting with state government, engineers may be barred from providing such gifts to government employees.

In this case, Gleason may have had a desire to support this initiative separate and apart from Worden’s request to support the playground project. However, Worden

潜在的に危険である。

本事例では、公共の顧客の代表 Worden は P.E. Gleason が技術サービスを無償で行う事を期待し、明示している。その一方で地域に恩恵を与える運動場の設計という公共資産は、公共の顧客の代表 Worden に政治的及び個人へ強力な効果を及ぼすことになる。

Gleason と彼女の会社は将来の案件の受注の示唆や無償のサービスの同意を行わない場合の嫌がらせなどの脅威に実際さらされている。

NSPE 倫理委員会は州の運輸局のメンバーを含む行政当局への贈答問題の事例について検討した。

BER Case 05-6 の事例では、贈与状況に対して、政府の役人に適用され、徹底的に管理されている規則及び規定を P.E.は遵守しなければならないと結論している。

P.E.はそのような贈答の禁止する規則を忠実に守る責務が有る。

さらに州政府の契約関係のグループに対して、贈答品を渡すことは禁じられている。

本事例では、Gleason は Worden の依頼による運動場プロジェクトのサポートとは関係なく、この構想へ自主的にサポートすると予測する。

improperly entangled Gleason and her firm's professional services with his request for support for the playground project. Gleason must clearly communicate with Worden—a party who has influence and authority over the selection of engineering firms to perform work for the town—that Gleason has no intention of abiding by his request to assist with the playground project as a condition for future work with the town or other public work. Any other action would amount to an effort to make a contribution (in-kind services) to influence the award of a future contract.

Conclusion

It was not ethical for Worden to ask Gleason and her firm to donate engineering services for the design of a playground on behalf of a local not-for-profit organization that he is active in and supports.

It would not be ethical for Gleason to agree to donate engineering services for the design of the playground under the circumstances.

しかし Worden は彼の依頼で Gleason と彼女の会社に対し運動場プロジェクトのサポートすることを強要している。

Gleason は町関連のエンジニアリングサービスを選定する行政局及びその関連のグループである Worden と明確にコミュニケーションを取り、将来の町の仕事及び公共の仕事を受注する条件で運動場プロジェクトをサポートする彼の申し出に対して対応する意志がないことを伝えるべきである。

他のいかなる行動も将来の契約に影響を及ぼす事になる。

結論

Worden が Gleason と彼女の会社に対し彼が活動しサポートしている地域の非営利団体の為に運動場の設計を無償で行う事の依頼は倫理的ではない。

Gleason がこのような条件下で、彼の申し出に同意し運動場の設計を無償で行う事は倫理的ではない。

NSPE Code References

III.2., III.3., III.5.a., and III.6.

For more information, see Case No. 16-11.

More You Be the Judge Articles

The Ethics of Extending, Receiving Credit
(July, 2021)

Elected Officials Make Questionable
Decision (April, 2021)

Digital Dilemmas (January, 2021)

Attention: Deadline Closer than Appears
(September, 2020)

Rise of AI Raises New Ethical Dilemmas
(July, 2020)

Translate PE0081 H.Kanno

Translation Supervisor PE0010 H.Hirose

NSPE Code References

III.2., III.3., III.5.a., and III.6.

さらなる情報は Case No. 16-11 参照。

参考のあなたが審判の記事。

The Ethics of Extending, Receiving Credit
(July, 2021)

Elected Officials Make Questionable
Decision (April, 2021)

Digital Dilemmas (January, 2021)

Attention: Deadline Closer than Appears
(September, 2020)

Rise of AI Raises New Ethical Dilemmas
(July, 2020)

翻訳 PE0081 神野

監訳 : PE0010 廣瀬

< Ethics reviewer's comments on this NSPE article >

Originally, service activities are voluntary and do not expect anything in return. Such cases deviate from the spirit of volunteerism.

There have been many cases in Japan in which bribes have been given in return for orders, but I have not heard of many cases in which preferential treatment for public works orders is taken in exchange for providing services free of charge.

This time, from the April and June issues of NCEES' web magazine "Licensure Exchange", we will introduce topics that are particularly useful for PE and PE examinees in Japan.

[April-2022-LEx-flipbook_pages.pdf \(ncees.org\)](#)

[June-2022-LEx-flip_pages.pdf \(ncees.org\)](#)

NCEES announced that Nebraska University Lincoln has won the top prize of the 2022 NCEES Engineering Education Awards. The prize money is \$25,000! As a project of the school, a team of students was tasked with completing the design of the Student Success Center on campus. The team tackled a number of design challenges, including natural disaster preparedness, emergency utility planning, and improving overall building performance. I envy the authority and organizational power of N CEES, which can recognize universities with practical educational programs and large prize money, but I would like to incorporate it into engineering education in Japan.

Well, this time I will introduce this article.

1. **New Schedule and Plenary Session at the Annual Meeting** (June issue p.4 "New schedule and plenary session for 2022 annual meeting")
2. **"Certification of Authorization" for Companies** (April, p.2-3, 5 "The case for firm certificates of authorization")
3. **Streamlining the License Renewal Process with the New CPC Audit System** (June issue p.6 "New CPC audit system streamlines license renewal process")

1. **New Schedule and Plenary Sessions for the Annual Meeting**

This year's NCEES annual meeting will be held in Carlsbad, California on August 23~2 It is scheduled to be held on the 6th. This will be the first time in three years that we have actually had a meeting. This year, we will introduce several new elements to improve the experience of the Annual General Meeting.

1)

The schedule has been changed **from the schedule of Wednesday ~ Saturday to Tuesday ~ Friday**. It will continue at a future annual general meeting. This change seems to be mainly due to the convenience of securing the site for the upcoming annual meeting.

2) **It is scheduled for Tuesday, the first day of the new plenary session**

. Its purpose is to be an **informal forum** for the **attendees** to hear from several committees and discuss the **motions to be verdicted** before the council during the business session. **is to provide**. Neither Robert's Rules of Procedure* nor the Convention Guidelines apply to this session, and no actual vote will be held. NCEES CEO DavidCox said, "What we want to achieve is to provide further education on selected topics and create an environment for

productive discussion outside of formal business sessions. He said. **Topics currently under consideration in the plenary session include (1) pricing of the exam and (2) work of the Engineering License Model Task Force.**

We have experienced difficult times through the pandemic, but it seems that people-to-people exchanges around the world are gradually resuming. I'm getting used to the remote in some ways, but it's still great to connect with familiar faces and meet new people. JSPE has also partially resumed face-to-face general meetings, but I hope that we will soon return to a world where people can interact without any concerns.



**2022
NCEES
annual meeting**
August 23–26

Meeting details in
Board Resources
section of
ncees.org/resources

The schedule of events for the 2022 NCEES annual meeting includes a plenary session on Tuesday. This informal discussion and Q&A session—open to all attendees—is a new offering for this year's annual meeting.

- "Robert's Rule of Order" is a rule of procedure devised by Henry Martyn Robert (1837-1923), a major in the United States Army, based on the Rules of Procedure of the United States Congress, simplified and devised so that it could be used in more ordinary meetings. It's a joke about being unofficial and collaborative.

2. About "Certification of Approval" for Companies

Why is it necessary to have "firm certificates of authorization"? It's not about the government over-regulating or generating additional income. In recent years, Japanese companies have also encountered various problems related not only to individual engineers but also to companies as a whole, such as falsification of performance and quality, management lacking in ethics, and derailment of development projects due to lack of skills. **PE and PS licenses guarantee a minimum qualification for an individual** to perform engineering or surveying for the purpose of protecting the public. Similarly, **you need to make sure that your company is operating in a way that protects the public and performs its services safely and ethically.**

Certificate of Authorization

The NCEES Model Act Section 160 addresses the requirements for certification of corporate accreditation, and **companies practicing engineering or surveying must comply with the requirements of the State Board It is required to obtain a certificate of approval by:**

Administrator (managing agent)

Model law provides that each company must appoint a managing agent to perform duties including:

- **Undertake responsibility for engineering or surveying work and projects** in jurisdictions provided by the company
- Update the company's certificate of authorization and notify the state board if there is a change in the administrator
- Provide overall administrative oversight of personnel performing engineering or surveying work in jurisdictions
- Establish and comply with firm policies in accordance with rules of professional conduct

Resident Professional

The Model Act also requires companies to appoint "resident experts" for each branch office that performs engineering or surveying services. This is a professional engineer or surveyor and

must meet the following requirements:



JOHN GREENHALGE
OHIO STATE BOARD OF REGISTRATION
FOR PROFESSIONAL ENGINEERS AND
SURVEYORS EXECUTIVE DIRECTOR

Board member John Greenhalge talks about the Ohio Board's advanced and ongoing efforts on "certification of approval"

- Spend most of your regular business hours at a specific branch office
 - **Assume the responsibility of only one branch office** at a time
 - You have **obtained a license in the jurisdiction in which your branch office** is located
- The job of the resident professional and custodian is to ensure that the company and its branches are providing services safely, ethically and in accordance with the law.

John Greenhalge, who is involved in the registration of P E and PLS at the Ohio State Board, said, "In Ohio for more than 50 years, it has proven corporate authorization in some way. Ohio state laws have worked hard to adapt to changes in the business environment and establish requirements that not only protect the general public, but also do not place an undue burden on engineers and surveyors." In Ohio state, state law has been amended to more closely reflect the guidance of model laws on corporate certification of authorization. Corporations must follow **the same** ethical and technical standards as **professional engineers and individual surveyors**.

3. Streamline the license renewal process with the new CPC audit system

Even in the state of Oregon, where the author (Suzuki) obtained the license, a new system was used for this qualification renewal (in the case of the author, the deadline is June 30 this year). The CPD (continuing professional development) certificate required for audits can now be uploaded directly from P C, making scanning unnecessary and convenient.

Audit processes are significantly streamlined compared to previous

Requirements for continuing professional competencies, or CPCs, vary from state of registration to state, but are believed to help licensees such as PEs keep the necessary knowledge up to date at all times. "CPC's audit process is essential to ensure that licensees legitimately meet the continuing education requirements for license renewal," said Bob Herbert of the Alabama State Board. Alabama State Board staff is passionate about making the audit process more efficient and improving licensees' ability to navigate He said.

In the past, audits were made after several months of the update cycle. Approximately 5% of the renewed licenses are selected, Auditor BodesTough on, Various documents indicating that you have acquired further education time, Conference registration receipts and training schedules from hotel receipts and airline tickets Ranging from, was passed. How many months will it take to complete the audit review process? I think it was no wonder. Does not meet the provisions in it There are several licensees and an investigation into their behavior is initiated. **All the process could take 4-6 months, State Board Staff had been tremendous burdened.**



BOB HERBERT
ALABAMA STATE BOARD OF LICENSURE
FOR PROFESSIONAL ENGINEERS AND
SURVEYORS CHIEF SPECIAL INVESTIGATOR

"The staff at the Alabama State Board are passionate about making the audit process more efficient and improving the ability of licensees to navigate," says Alabama BoB Herbert of the State Board

Licensee is obligated to maintain, keep records, and respond to audits of CPC

To remedy this situation, in 2014, the documentation requirement for completion of professional

development hour (PDH) was changed, and **the notified CPC** that **Licensee is responsible for maintaining records relating to the CPC, and that it will retain these records for a period of four (4) years.** It has become clear **that it is necessary to submit to the state board** as needed. Effective October 5, 2021, a new management system has been introduced and audit processes have been integrated into the new system. **If selected for auditing, Licensee will be notified during the renewal process,** which will log the training received and the number of hours earned and upload a certificate of completion.

The audit process will be streamlined year by year in this way, but it is expected that the time that the State Board can spend on the actual audit will increase. I would like to make effective use of JSPE's C PD seminars and other events, steadily accumulate C PD and manage documentary evidence firmly.

JSPE Planning Committee

1. Introduction of NSPICON and Call for Participants

The NSPE General Meeting was held at the same time as the conference every year, but this year the annual general meeting will be held on June 30 and the conference will be held on August 1-3. The conference, which consists of CPD seminars, networking and facility tours, was held locally in Philadelphia this year as the COVID 19 situation in the U.S. has calmed down.

In addition to travel and stay expenses, the following participation fees will be charged for participation, but if you submit a participation report, JSPE will subsidize the full amount of the participation fee. If you are interested, please contact [the Planning Subcommittee p lan.2007@jspe.org](mailto:lan.2007@jspe.org) (If you are a non-NSPE member, please consider becoming a member. NSPE non-member participation fee = NSPE member's participation fee + NSPE first year membership fee, so it is a good deal). For details, please check the following website. <https://www.nspecon.org/>



NSPE General Assembly Participation Fee

Early Bird Rates - Register before June 30

Full conference registration fees include Professional Development Hours (up to 10 PDHs), the Monday opening reception, and lunch on Tuesday and Wednesday.

- NSPE Member Full Conference Registration Rate \$550.00
- Nonmember Full Conference Registration Rate \$849.00
- NSPE Student Member Full Conference Registration Rate \$200.00
- NSPE Member One-Day Registration \$275.00

The one-day registration fee includes Professional Development Hours (up to 5 PDHs on Tuesday and up to 5 PDHs on Wednesday) and lunch on the selected day. The one-day registration fee does not include the opening reception on August 1. Attendees may purchase tickets to the opening reception separately according to the fees listed.

- [OPTIONAL] Order of the Engineer Induction \$15.00

NSPE General Assembly Events by Schedule

<https://www.nspecon.org/schedule-at-a-glance/#not-set:all&event-category:all>

2. Introducing NSPE-provided free webinar

For NSPECON, webinar with 1PDH was provided. This is free to participate regardless of

whether you are a member or non-member of N SPE, so please join this opportunity,
<https://pdh.nspe.org/products/the-amazing-discovery-of-mason-and-dixons-transit-instrument>

<Abstract>

To whet your appetite for Philadelphia at NSPECon 2022!, we offer an amazing Webinar by engineer and surveyor, David S Thaler. He tells the saga of the Mason Dixon survey, the most outstanding engineering and scientific achievement of the 18th century which resolved the bitter 80 years

feud between the Penns of Pennsylvania and the Calverts of Maryland and was the longest running case in British judicial history. It all began right here in Philadelphia,

He also tells the story of the remarkable discovery of Mason and Dixon's actual Transit, perhaps Americas most historic scientific instrument and its donation as a Gift to the Nation from the Engineers and Surveyors of America, the instrument now fully restored, resides at Independence Hall but a short walk from the convention venue.



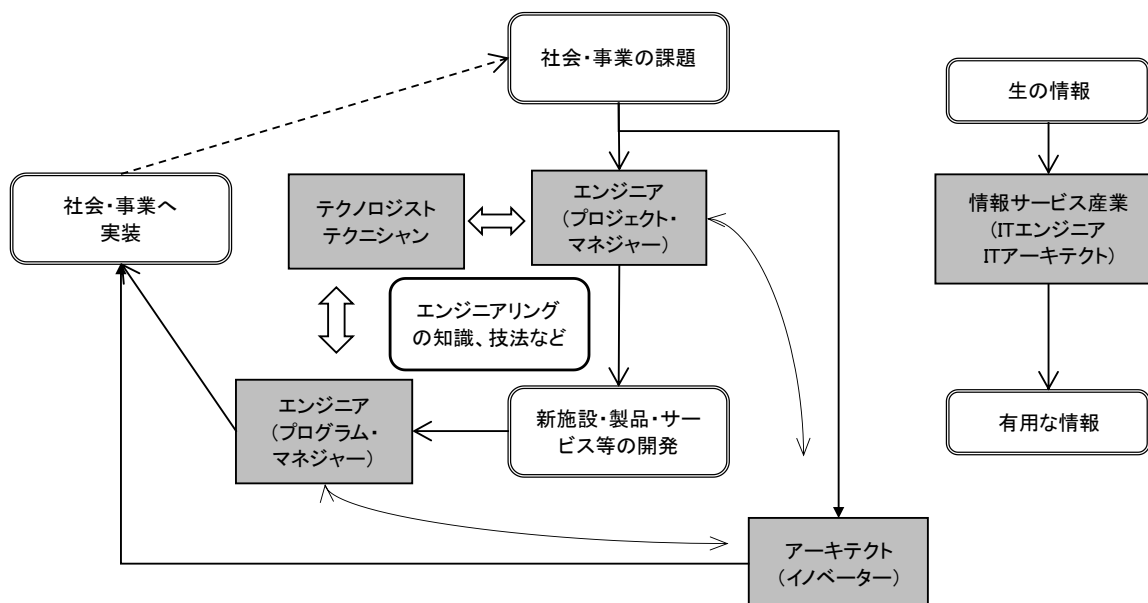
Final: A bird's-eye view of engineering

PE-0151 Takeya Kawamura
(Former President, NSPE Member)**1. Preface**

Our role as engineers is to provide engineering work to society.

So what is engineering work? Although there are various definitions*1 Taken together, "to develop new practical facilities, products, and services by applying specialized knowledge and techniques based on mathematics and science to the various demands of society, and to ensure that public safety, hygiene and well-being are also ensured by them." It is defined. (*1 PE Acts of each U.S. state, Articles of Incorporation of the Japan Engineering Association, etc.)

In addition, when performing such work, it is essential for engineers to cooperate with neighboring occupations such as architects (architects and architects), technologists (technical researchers), technicians (technicians), IT engineers, etc. Then, the image of the role and function that engineers should play in society will be as shown in Figure 1.



(Note: Engineers are often managers of business projects and programs.) Architects are listed in parentheses because their roles are similar to those of innovators who are responsible for social implementation of new products, etc.)

Fig. 1 Image of the role and function of engineers in society.

Figure 1 shows that the society in which engineers and architects are involved and the information service industry are becoming independent and separate. One theory is that the information service industry will eventually replace the work of engineers and architects. The motivation for the series of articles titled "Diversity and Cooperation in Technical Fields" since January 2021 was that it would be essential to be able to understand and explain to others the highly fragmented specialized fields so that engineers and architects can at least collaborate seamlessly with the social image shown in Fig. 1 in mind.

On the other hand, there is currently a strong demand for a shift from fossil fuel use to renewable energy use such as solar, wind, and geothermal, innovation of existing technologies utilizing information services (new combinations), and transition to next-generation industries (Industry 4.0, etc.). There is no doubt that we engineers need to collaborate with neighboring professions such as the information service industry and architects, and for that purpose, it is

necessary to deepen mutual understanding between specialized fields within engineering. This time, I would like to reconfirm what has been clarified in the series so far and present a model that can "take a bird's-eye view of engineering".

2. Definition of the Four Disciplines of Engineering

The definitions of the four fields of civil engineering, machinery, electricity, and chemistry, which traditionally form the basis of engineering, are summarized as shown in Table 1. It was prepared based on materials from the Science Council of Japan and ABET in the United States.

The definition of the term "civil engineering, machinery, electricity, and chemistry" that we use on a daily basis is actually profound and difficult to understand.

Table 1 Examples of Definitions of Four Engineering Fields

	Civil Engineering	Mechanical Engineering	Electrical Engineering	Chemical Engineering
Academic Definition *1	<p>Plan, design, construct, and maintain the built environment that is indispensable for human survival.</p> <p>Practical problems of civil engineering are solved by applying mathematics and physical chemistry.</p> <p>It also requires project management, ethics, and PE licenses.</p>	<p>Design a machine that converts a given amount of energy or information into useful functions.</p> <p>Applying mathematics and basic science, we model, analyze, and design machines and processes.</p>	<p>It realizes the manipulation of electromagnetic phenomena and electronic behavior, the transmission and processing of information, and the modeling and control of systems.</p> <p>The need to learn probability statistics, calculus, basic science, and electrical and electronic engineering, systems and software analysis, and design.</p>	<p>In addition to understanding the structure, properties, and reactions of materials, we conduct material conversion and synthesis of new materials.</p> <p>The need to learn math, chemistry, physics and process control design, including hazards, based on differential equations and statistics.</p> <p>In addition, it is necessary to consider the sustainability of humanity and society, such as material safety and environmental impact assessment.</p>

	Civil Engineering	Mechanical Engineering	Electrical Engineering	Chemical Engineering
Definition in dictionaries, etc.	To be in charge of the design and construction of immovable objects such as levees and buildings.	To be responsible for the design and operation of moving objects such as automobiles, pumps, and air conditioning equipment.	To be responsible for the design and operation of power generation equipment, electronic circuits, and communication equipment.	To design and operate manufacturing processes for various materials and products.

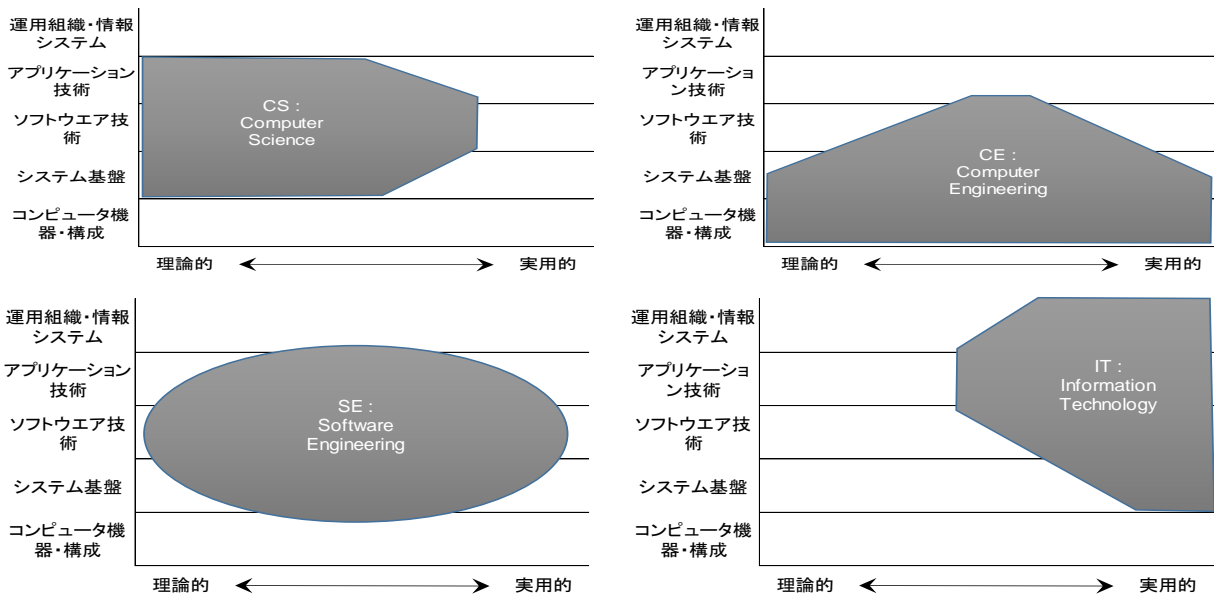
*1 Summary and abstract of the Science Council of Japan's Sectoral Quality Assurance Committee on University Education Reference Standards and the U.S.A. ABET EAC (Criteria for Accrediting Engineering Programs)

These "four fields of traditional engineering" can also be explained by looking back at the history of human civilization described in textbooks.

With the rise of agriculture (primary industry), mankind was able to engage in intellectual work other than obtaining daily bread, and first of all, architecture and civil engineering technology for building houses and cities developed. Next, the ability to mine and use fossil fuels led to the emergence of industries (secondary industries) that built various machines and transportation, and the development of mechanical, electrical, and chemical technologies. Today, the information service industry (tertiary industry) derived from electrical technology continues to develop.

3. Definition of the Five Areas of Information Services

From the IEEE Computer Society and the Information Processing Society of Japan, we learned that the information service industry, which is making remarkable progress, consists of five specialized knowledge fields, and that there is a mixture of practical and theoretical knowledge, from computers and machines to software and operation organizations. Figure 2 shows an image of such a thing.



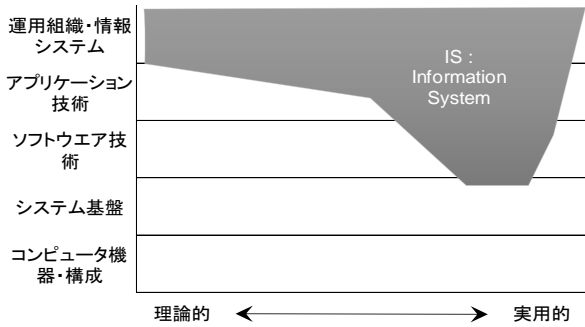


Fig. 2 Example of definition of the five fields of information services.

Source: IEEE Computing Curricula 2005 and IPSJ Department of Information Science Curriculum Standard J07

4. Division of roles between engineers and architects

Figures 3 and 2 chart how PEs and architects in the United States divide their roles in the design of buildings and social infrastructure. It was created based on several state PE laws, Architect laws, and NSPE public information. In addition, this chart was presented at the February 2022 seminar for the Architectural Institute of Japan, "Engineering Ethics in the United States," which was held at the request of the Architectural Institute of Japan.

建築物と社会インフラの見える部分(地表及び建築物外観)

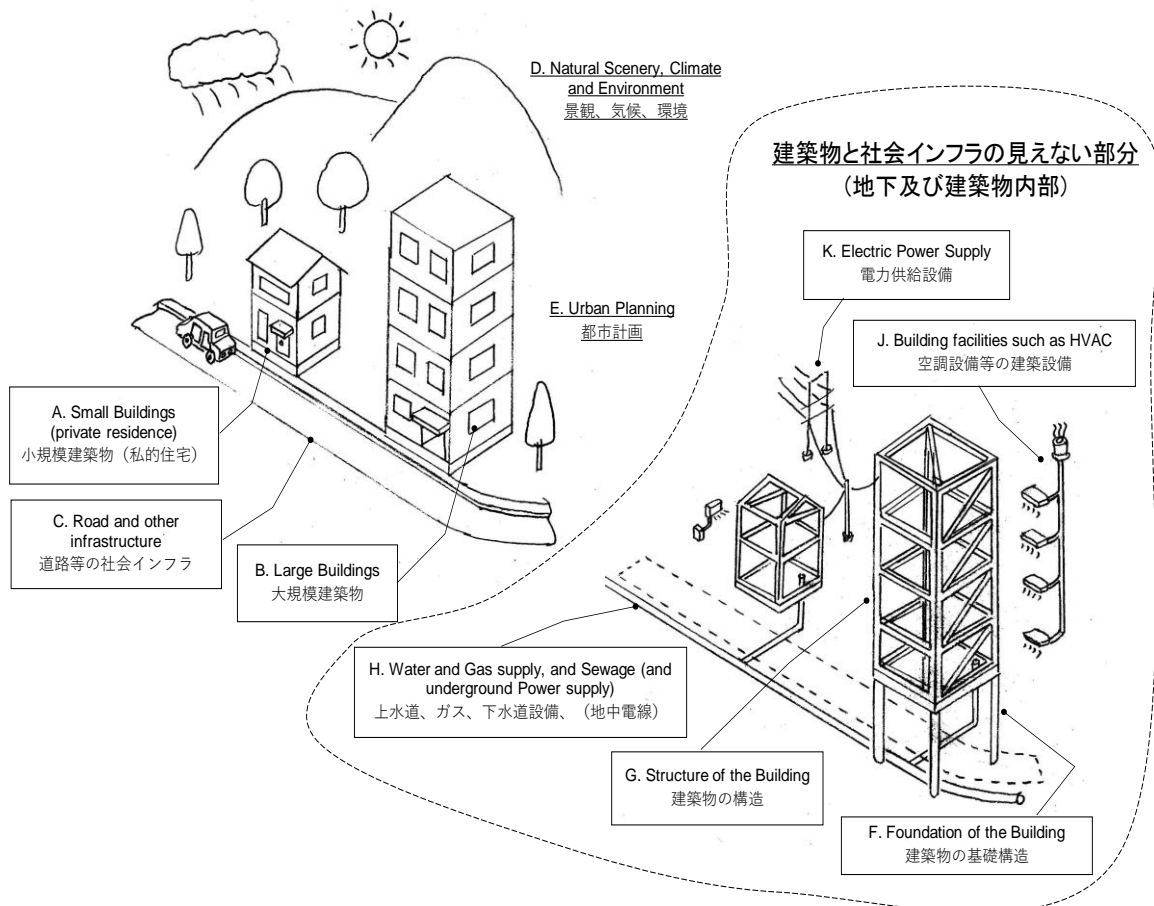


Fig. 3 Visible and invisible parts of buildings and social infrastructure

Table 2 Division of Roles between Architects and Engineers in the United States

米 国	設計者の資格と責任			
	P.E. (機械/電気等)	P.E. (土木/構造等)	Architect	Landscape Architect
A. 小規模建築物(私的住宅)		責任	責任	
B. 大規模建築物		責任	責任	
C. 道路等の社会インフラ		責任		
D. 景観、気候、環境			提言	提言
E. 都市計画			提言	提言
F. 建築物の基礎構造		責任		
G. 建築物の構造		責任		
H. 水道、ガス、下水道設備(地中電線)		責任		
J. 空調設備等の建築設備	責任			
K. 電力供給設備	助言			

5. Fields of Engineering and Clues to Solving Social Issues

Now that we have a broad understanding of the definitions of the main fields of engineering and the fields that make up information services, and the division of roles between engineering and architecture, how can the engineering body of knowledge relate to solving the current social issues? FIG. 4 illustrates this.

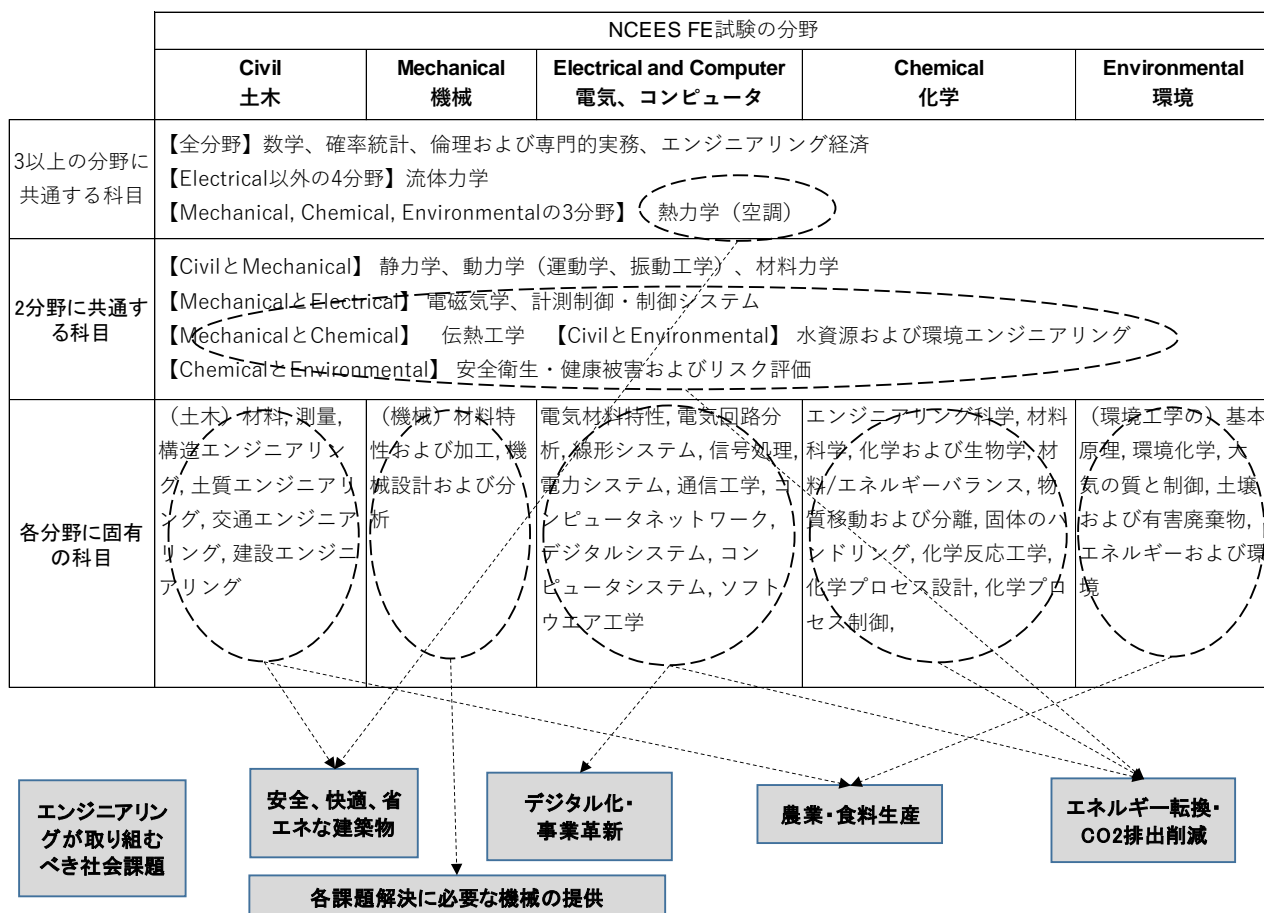


Fig. 4 Example of the relationship between the constituent subjects of the five engineering fields and the resolution of social issues

Electrical and chemical engineering, digitalization and civil engineering and environmental engineering can contribute primarily to the energy transition, but it is essential to always keep in mind the four dynamics (fluid, thermal, dynamic, and mechanics of materials), mathematics, probability statistics, engineering economics and ethics that are common to each engineering field. As shown in Fig. 1, it is essential for engineers to team up with technologists and technicians to produce results in order to implement social implementation. Table 3 is an excerpt from the IEA GAPC, which was just revised last year.

Table 3 Examples of the division of roles between engineers, technologists, and technicians

Professional Engineer	Engineering Technologist	Engineering Technician
Applying knowledge of mathematics, natural sciences, computing and engineering fundamentals, as well as engineering specialties,		
Optimally resolve the interactions that arise between a wide variety of and sometimes conflicting technical, non-technical, and engineering issues.	Resolves the occasional interaction between technical, non-technical, and engineering issues, including some conflicts, in the best possible way.	Resolves the interactions that arise between a limited range of technical, non-technical, and engineering issues in the best possible way.

Source: IEA GAPC 2021 (Graduate Attributes and Professional Competencies) Range of Engineering Activities and Graduate Attributes Profile : Engineering Knowledge.

6. Summary

Since the January 2021 issue, we have held up the theme of "Diversity and Cooperation in the Field of Technology" for six times, and have conducted our own analysis based on published materials. Initially, I had a plan to analyze the role of engineering in medical services, but when a request for a lecture from the Architectural Institute of Japan came in via JABEE, I decided to analyze the role of engineering in architectural design.

Fig. 1 visualizes the relationship between engineers and society in an abstract manner, but since there are differences in the way "engineers" are perceived even between Japan and the United States, Figure 5 shows how specialists in each country relate to society from the perspectives of "manufacturing," "town planning," and "kotozukuri."

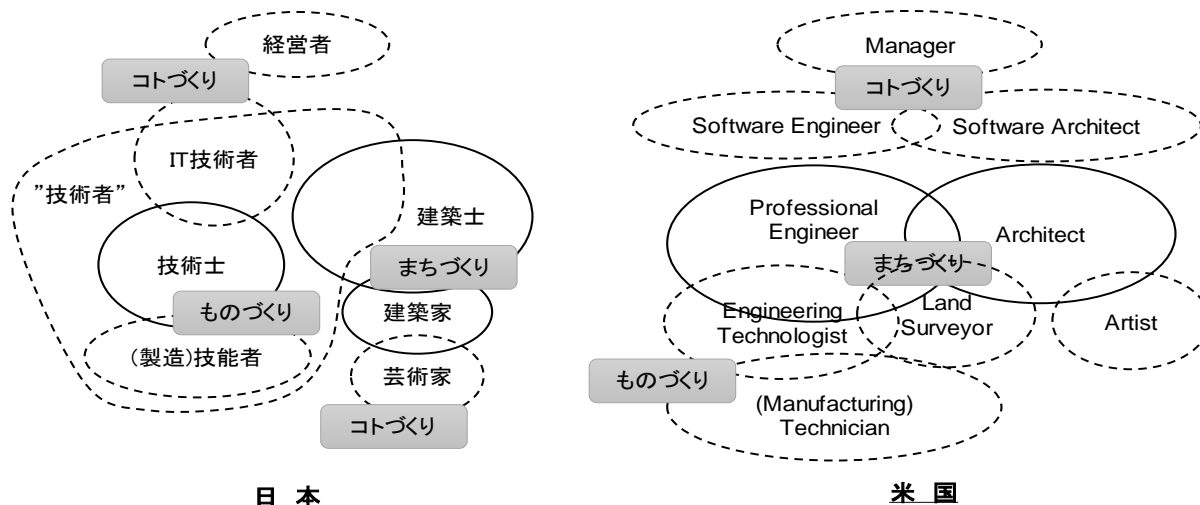


Fig. 5 Differences between manufacturing, town planning, and kotozukuri between Japan and the United States

I would like to brush up on the idea that Figure 5 is the answer to the eternal theme of "diversity and cooperation in the field of technology."

June 23, 2022

What we can see through NSPE's activities

PE-0002 Kazuo Takemasa

1. Introduction

In 2022, the corona disaster is continuing around the world. At the end of last year, the Japanese prime minister made a direct telephone call request to Pfizer to supply vaccine for a third dose of vaccine, but apparently refused. It was an event that symbolized the scientific and technological capabilities of Japan's industry-government-academia organization, which has focused on technological development by narrowing down to the lucrative development items of concentration and selection.

So, has investment in technological development on profitable themes opened up future prospects for domestic industry, government, and academia? The article that graced the first page of the Nikkei on New Year's Day describes "recreating capitalism" as a virtuous cycle of competition, re-challenge, and growth, and the solution is "flexibility." ¹⁾ It is a choice on the road to an intermediate state.

However, since the late 1990s, Japan's politics and economy have consistently chosen the future of the country as "the path of reconstruction to become an economic superpower" for 30 years. The amount of debt from large amounts of government bonds has continued to increase since the bursting of the bubble, making the path to "a middle-class nation commensurate with its capabilities" virtually impossible. The Nikkei New Year's Day article seemed to ring the final bell. The driving force for becoming a large-scale economic superpower can be found only in "scientific and technological capabilities."

P.E. working in Japan How do you blaze your own path? I have been thinking about answering the issues that I have been discussing in this series, but it seems that it is no longer possible to achieve results even if I ask the industry-government-academia organizations in this country to play an active role in the use of their own technological propulsion. Rather, there is a high probability that in the near future, they will be caught up in the organization and will be shipwrecked. At that time, in Japan, professional engineers are not distinguished from general employees under the in-house union system. In the professional union system in Europe and the United States, there is a mechanism to protect engineers from working as engineers even after early retirement. In Japan, engineers do not protest this plight.

Therefore, although it is a tough road at present, P.E. It is necessary for the person himself or herself to work hard every day to cope with the speed of social change, to advance one's career as a member of society, and to have the ability to independently respond to the demands of society. A sample of the action is the U.S. P.E. I can't assume anything else. As technical experts in Japan, it is necessary to build a self-sustaining technical career while utilizing the assets of in-house technology built up by at least the few remaining Showa generations.

Here, in the United States, in response to similar social changes, P. E. What kind of daily activities do they do? and P.E. Is it corresponding as such? I'd like to take a look. In response to the problems and issues occurring in society, P. P. E. Through activities, P. E. It is taken up as an activity. Also how NSPE supports it and P. E. I would like to see if they are disseminating information to members. and member P. E. I would like to think about how this information is utilized in action. How the Society and Industry Are P.E. I would like to explore whether it is treated and dealt with

2. NSPE Business Paper ²⁾ "Daily Designs"

NSPE publishes a web version of the newspaper two to three times a week for its members. You will receive an article in color under the name "Daily Design". Articles are divided into major headings as shown in Table 1.

Table 1 Segments of "NSPE News" Daily Design


Title Item	explanation
Government	Technical issues such as PE legislation in federal and state governments and legislatures
NSPE News	NSPE's New Activities
Infrastructure	Mainly topics such as new construction and repair of public facilities
Energy	Basic energy situation of industry and society
Diversity	Agenda and women's activities
Work Place	Trends and topics in the workplace
Professional Practice	Examples of duties as PEs, etc.
Education	Mainly topics related to science and technology education themes
Ethics	Technical Ethics Relations Articles
Emerging Technology	Current status and practical examples of new technologies

Each category is defined as P.E. I am teaching about activities as a company, but this time I would like to first explore new technologies and new businesses that will lead the next era in industrial society. Therefore, this time, we focused on "Emerging Technology" from "Daily Design" magazine. I would like to introduce the latest technical information provided to .

-Business News for PEs- Contents from January (headlines of the newly emerging technology section)

2022 years, month/day	Article Headlines
1/14	What is nanoengineering?
	Expert engineers could have prevented the closure of the I-40 bridge if they had done it with the right manufacturing technology.
1/20	Construction of fuel cell power plant by GM (General Motors)
	Construction of an offshore wind power company
1/21	Inspection of New York City Buildings by Drone
	Former NASA Engineer's Application of A-I Technology to Handicapped Vehicles
1/24	Computer calculations of the marine environment
1/27	The cloud of the Drone Robot Legion is real
	Making self-driving cars more expressive
2/2	AI and Machine Learning: Bridging Pipelines, Operations, and Investment Returns in Wind Power Development


2/3	AI helps engineers make real-time decisions (synchronize huge amounts of measured data)
2/10	215 electrified trucks to increase 10x in the next 10years
	Self-driving cars expected to bring road safety also face road legislation and self-safety challenges
3/3	Vehicle-to-vehicle communication for safety
3/4	Application of artificial red blood cells to life-saving drugs
3/8	Using Robots to Clean Aircraft
3/9	Preparing for the Quantum Revolution with Quantum Technology Advances
	Nuclear fusion is the first step towards an AI breakthrough



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January 24, 2022



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NSPE NEWS

Reimagine the possible during Engineers Week: Feb. 20-26



Get ready to celebrate the 2022 Engineers Week with the theme "[Reimagining the Possible](#)." More than a week-long event, Engineers Week is a year-round commitment to making a difference. As the only event of its kind, it is a time for NSPE members to:

- Celebrate how engineers make a difference in our world;
- Add your voice to the conversation about the need for engineers, technicians, and technologists; and
- Engage students in engineering.

[Find ways to participate in Engineers Week.](#)

3. Boeing's Management Crisis

It is not published in NSPE's WEB newspaper, but in article ³⁾ published in the Asahi Shimbun, a feature article on Boeing's poor management caught my eye. A three-day feature article was published on the theme of "Chasing the Boeing Crisis at the Price of Greed."

Currently, Boeing is struggling to become a large loss-making company for three consecutive years. As a representative of the "engineering companies" representing the United States, the confidence of the representative companies of the technological capabilities that the United States is proud of is being shaken. The most sympathetic part of the article was the following sentence:

- "There are 20,000 issues in the development of new models, and 20 to 40 engineers work on solving one problem" shows that the basic form of manufacturing was completed. However, with the merger with McDonald's Douglas "MD", a competitor who was in decline at the time, MD's cost-oriented management entered the company. "As the culture that had retained the ethos of engineer-dominance became more valuable, development budgets, people, and time were steadily being slashed." and "The number of employees at the time of the merger eight years ago was reduced to 150,000." Technical issues have been thrown out to parts outsourcing and system companies, and cost reduction has become a top priority. As a result, in 2018 and 2019, the small aircraft 373Max crashed one after another, eroding the company's trust.

And the article reports. The above enterprise situation is a typical "-Decline in manufacturing-" model pattern. In order for companies to solve the technical issues that engineers are working on, commercialize them, and contribute to sales, it takes a period of 5 years at the earliest, usually 7 to 10 years. Therefore, the company has internally a working technology asset for that amount. If you chop it into small pieces, sell it, cash it out, and reduce the number of technicians in charge, it seems that profits in the short term years have skyrocketed. The "MD" managers who came to Boeing did this to Boeing because of the corporate structure of their own MD company, so they did this to Boeing on purpose or because they did not understand the cause of the decline of their company. Today, this has led to the U.S. itself shaking the confidence of technologically advanced countries by its own engineers. This article is an article about the contents of the Boeing announcement.

There is an attitude of self-reflection that has fallen into a predicament by neglecting technology on its own.

4. Time to review the status of technology and engineers themselves in society

I mentioned at the beginning that the front page of the Nikkei newspaper on January 1, 2022 began with the headline "Recreating Capitalism." The article says capitalism is facing a third crisis. It is a direct description of the current situation in Japan, where growth is slowing, inequality is widening and people's discontent is erupting. Therefore, what this article points out is a proposal to make the social model of Scandinavian Sweden a model for the future of Japan. According to the article, "Scandinavia has a strong image of a welfare state, such as free medical care and education, but it will create an environment where it is easy for people to take on challenges. The current neoliberal model of the United States has already gone bankrupt in too many ways, and social contradictions are surfacing even in the U.S. industry that is ahead of the curve. The article states, "The United States is contradictory. GDP growth is 2.0%, but the Gini coefficient is high at 0.40%, and the gap widens. The top 1% of the population by income earns The total percentage of total income has risen from 14 percent to 19 percent over the past 30 years," he said, noting that the decline in manufacturing "has robbed people of their pride and self-esteem."

As a solution to the article, I propose to focus on the model of the national industrial physician in the Nordic countries such as Sweden, Denmark, and Finland, typified by the coined term "flexistrictiveness" combined with "flexibility" and "safety security".

The growth model of Japanese industry, in the "Limits to Growth" advocated by the Club of Rome in 1972, proposed that the mineral energy resources on the earth are finite and that it is impossible to continue a mass production and mass consumption economy, but Japan, a resource-poor country, as a "manufacturing nation" as a "manufacturing nation", The Faculty of Engineering at the university has nurtured a large number of engineers and achieved growth by adopting an industrial policy that prioritizes exports. Even after that, even in the "oil crisis" of 1974 (Showa 49), we set the goal of leading the world industry by developing energy-saving technologies, and pushed forward with the line of mass production and mass consumption. In the industries of mass production and mass consumption, such as the reduction of ozone-depleting

substances, the prohibition of the use of toxic metals to prevent pollution, and the conversion of carcinogens into other substances, the company did not change its default course by taking advantage of the advantages of being able to cover the cost of countermeasures. However, in this century, two industrial and social changes have occurred. The first one is "financial commodification of the company". It is that the company has "become a commodity to be bought and sold" rather than a "mother organization of manufacturing". It was decided in management that it would be better to buy the technology of another company than to have engineers develop it from the beginning. In Japan, too, the tragedy that occurred at Boeing has occurred hundreds and thousands of times. The other one is "the decline in the relative value of prior art due to the digital technology revolution".

Currently, NSPE's Daily Design magazine "Emerging Technology" introduces the substitution of intelligent labor by SNS and AI, and IoT. It can be said that it is losing the power to lead the world in fields such as unmanned automation technology, space development technology, ocean development technology, clean energy technology, etc., and it is losing the ability to supply mass-produced products and services to the world market.

Nevertheless, engineers currently working in Japan do not seem to have waned in their diligent and goal-oriented attitude. However, like the Boeing engineers mentioned above, when the management of the country or the company makes a mistake in the goal and makes a big mistake that is very dangerous for the company's products and the country's industry, it is the engineers who feel the daily changes firsthand on the ground, who must speak out as experts and point out the mistakes and warn them, and it can be said that this act has been decisively weakened and degenerated. Even in Japan, when the voices of the financial community such as funds for policies for building new industries become excessive, and amateur managers impose amateur technology development policies (mainly frivolous short-term completion plans), it is easy to overlook the way in which engineers who are well aware of the substantive solution issues and the degree of difficulty of the industry follow the actual solution issues of the industry and undermine their respective workplaces, companies, and industries. It seems to have become a major trend in this country in recent years.

The attitude of exposing the state of technological decline to the outside world and working on improvement was completely overshadowed. In the United States, as can be seen from the example of Boeing, the power of society to publicize the degree of wrongdoing and improve it is working in a positive direction. In Japan, they are rolling down a low slope in the dark, but no technician anywhere raises their hand to fix it.

In the case of such engineers, the entire company is sold to an overseas fund, and among them, the technology held is sold off for two pairs and three sentences, and after the handover is completed, there is no point in being chased away from the company as garbage. There is a fundamental lack of the ability to respond to changes in response to technological issues in a broad sense.

5. Establishment of self-policy for engineers and search for improvement of their own expertise

At present, the most serious situation for Japanese engineers and engineering students has traditionally been handled by Japanese-style manufacturing companies. The company is losing its ability to train engineers and the financial resources to sponsor them in the rush to become financial commodifications.

Even in the development and production functions of our core business, we do not have a main manufacturing plant in Japan, and it has been a long time since we have moved overseas to Southeast Asia, China, etc. Therefore, in order for manufacturing engineers to accumulate technology, they do not seek a workplace in Japan. It is important to enter overseas factories and enhance one's own technological exploration there. Japan is no longer a place where decent engineers work.

In recent years, overseas students have learned practical operations in Japan, such as product planning and product development, and are engaged in industrial technology activities

independently with the power of local engineers. Among professional engineers working in Japan, JSPE has already become commonplace for American engineers, and it is necessary to become an expert overseas using English.

Among domestic manufacturing companies and engineering companies, only engineers who are training day and night to truly enhance their technical capabilities among the few remaining technical development and design departments can accumulate their abilities as specialists even if they go overseas. At a time when Japan's manufacturing industry had the world's greatest power in many fields, the proverb "No matter how many acorns you collect, it is an acorn" became popular in the technical sector.

With acorns, it would be impossible to teach the current overseas "manufacturing", and it would be ridiculous to instruct them. An acorn + technician who is good at English should become an interpreter. We recommend that technical experts + poor English technicians join JSPE to hone their technical English skills and learn their ability to apply overseas. Information and communication technology is developing, and the level of engineers in the world is also rapidly improving.

In order to be recognized in industry as a professional engineer, it is essential to have a level of ability and career (achievement) that can be measured by a world-class standard yardstick and accepted as a professional. P.E. The certification is one of the proofs of this support, and it is only an endorsement to get society to recognize the technology.

6. Find a place to play an active role in the global market with your own technology

Up to this point, engineers in Japan have become consultants and problem-solvers for many organizations and groups in terms of social systems. And the engineers themselves have been content with that. However, when companies became commodities for money, engineers became just one of the features. The result is causing the following calamities for engineers:

1. Originally, patents that belonged to the inventor were offered to the company with a small bounty.
2. Originally, the Society of Engineers (originally called the Society of Engineers), which should secure a social position, has university researchers taking over the academic society and making it a side job.
3. Many in-house technical tasks are specialized for many years on the subject of only one part of a product, so even if an engineer goes out into society, he or she cannot become an expert in the product, wasting the technician's time.
4. With the development of IT, external secrets are increasing in technical work at companies, and engineers are unable to disclose their careers.
5. In-house engineers spend a long time absorbing knowledge of systems in the manufacturing and production processes in the form of IT software, and they cannot take out their own knowledge as their own from the company (becoming a shell of a shell).

In developed countries in Europe and the United States, the rights of individual engineers are protected, so there is no such thing as terrible things like domestic companies and the Japanese social system.

Under such circumstances, in Japanese society, it is a one-sided oversight to ask individual engineers for technical ethics. Rather, social systems, companies, and university organizations must first reform the Code of Conduct based on ethics.

NSPE has departments and activities within the organization that demand decent systems of protection for engineers against the federal and state governments (described above in the Government section of the Daily Design). P.E. IN JSPE We can only pray that the people of Japan will not fall victim to this trap against the treatment and disposability of social and corporate engineers that are occurring in Japan mentioned above.

(References)

- (1) Nihon Sangyo Keizai Shimbun, January 1, 2022 issue of Nikkei
- (2) 「Daily Design」 January 14.-March 09 2022 NSPE
- (3) "The Age of Greedness" January 25-27, 2022 Asahi Shimbun

1. Introduction

Since July 2021, I have been assigned to Düsseldorf, Germany. I have had the opportunity to conduct a brief survey of the German system of certified engineers there, and I will report the results.

In Japan, certified engineers in Germany are "Dipl.-Ing." as described in the report ⁽¹⁾ of the Japan Society of Engineers and the Ministry of Education, Culture, Sports, Science and Technology. (Diplom Ingenieur/Ingenieurin) is recognized as equivalent. This in itself is not a mistake, but when I actually investigated it, I could see that it was quite complicated due to the influence of EU integration and so on.

This survey was based on what we heard from our human resources staff, and based on the literature and government website, the law, etc., we conducted a confirmation survey using a German dictionary and translation application, Please forgive any bias or misunderstandings in the content.

2. „Dipl.-Ing.“ to "M.Eng"

This "Dipl.-Ing." As the name "Diplom" suggests, it means an engineer who has a university degree, and is generally a title "awarded by the university" if you have a master's degree or higher. This history is old, and in 1899 Wilhelm II granted the right to confer the same title on the Royal Technical University of Charlottenburg (now the Technical University of Berlin).

Bachelor's degree holders are entitled "Dipl.-Ing. (FH)" (FH: Fachhochschule Applied College, which deals with practical content from the university).

You may be a little wondering why a university is a master's degree and an applied college is a bachelor's degree, but this is because, in Germany, it is traditionally a six-year period of study at a university. In other words, the master's degree was the lowest line for an engineering degree. This situation seems to have been made possible by the increase in the number of vocational schools with a three-year bachelor's degree, and the Bologna process, which will be described later, made it definitive.

Now, "Dipl.-Ing." Back to the story. In the words of our human resources, "The person using this title is quite old". Certainly, if you look at the German business cards in hand, the only people who use the real title are young and in their late 40s or later. The current name of the degree is "Master of Engineering (M.Eng.)" Or "Bachelor of Engineering (B.Eng.)" Seems to be almost unified into.

The trigger for this was the introduction of the Bologna Process in 1999. This process aims to improve the portability of talented human resources and revitalize higher research by unifying the quality and level of degree recognition in higher education among the countries with which the agreement was established, triggered by the establishment of the EU. It was concluded by 29 European countries in the form of the Bologna Agreement (currently non-European countries can also participate in the agreement). Germany participated in this agreement from the outset and promoted the introduction of a system in accordance with this process, which is why it was called "Dipl.-Ing." Now almost "Master of Engineering (M.Eng.)" Seems to have been replaced by.

3. German Certified Engineer System

3.1 To use the name Ingenieur

It is not as if there is no certified engineer system in Germany, or if anyone can claim to be an engineer. The Engineers Act of 1970 (Ingenieurgesetz) prohibits the unauthorized use of the title

"Ingenieur/Ingenieurin (Engineer)", and in Nordrhein-Westfalen Province (NRW), where I am now, Violators will be fined according to state law. ⁽²⁾ In fact, even when inviting expatriates from the development and design departments in Japan, we are thorough not to use the notation "Ingenieur/Ingenieurin (engineer)" (so as not to create confusion).

So what if you want to use the name "Ingenieur/Ingenieurin (engineer)"? It basically involves registering with the state government of the place where they are employed or self-employed. Take NRW as an example.

The requirements for registration are simple

1.

- a. At least 3 years at a university in Germany, or
- b. Study in a German public engineering school or a German private engineering school, which is legally equivalent in terms of degree and lasts at least three academic years, or
- c. Operator courses in mountain schools approved by the German state
Those who have successfully completed the above. or

2. A person who has been granted the right to use the name "engineer (graduate)" by the competent authority.

It is. In addition, it is possible to register a degree abroad if it is recognized as equivalent to a) and b). However, it is not possible to convert an overseas degree into a German degree with this registration.

Now, regarding the merits of this registration, there are many opinions that honestly do not find much merit. The reason for this is that there is no mechanism to support professional support simply by being able to use the name. Communities of registrants such as the NSPE and the Japan Society of Engineers cannot be found, and there is no provision in this law to impose penalties for lacking professional qualifications or for such conduct.

3.2 Staatlich geprüfter Techniker (State Certified Engineer)

So doesn't Germany have qualifications as "professional" engineers? The question arises. So I investigated and found Staatlich geprüfter Techniker (State Certified Engineer?). I came across a professional qualification that. This is a qualification awarded by taking an exam administered by the state after receiving 2,400 hours of higher professional education.

However, if you look closely at the name of this qualification, it should be noted that it is Techniker (technician) and not Ingenieur/Ingenieurin (engineer). As will be described later, in the German school system, further education and vocational training diverges from the end of primary education. This qualification is intended for those who have progressed to the vocational training track. Therefore, as a merit of obtaining this qualification, a competency level equivalent to a bachelor's degree is recognized, and it is also possible to obtain a transfer qualification to a university. However, the German Society of Engineers (VDI) has expressed concern that a bachelor's degree from a technical college and a bachelor's degree equivalent to this qualification are considered to be homogeneous, and it seems that there is still room for debate.

3.3 Staatlich anerkannte Sachverständige (SaSV State Certified Professional)

I think there is a question as to whether certified engineers in public works such as architecture and civil engineering are also registered simply like this, but in fact this area is separated as a separate qualification. ⁽⁴⁾

First of all, there is a system called Staatlich anerkannte Sachverständige (SaSV State Accredited Specialist), which is responsible for structural design, fire protection testing, earthwork and foundations, In the field of noise insulation, we conduct competency certification, including written and oral tests. It also has a certification of experts responsible for the project

called Öffentlich bestellte und vereidigte Sachverständige (Publicly Appointed and Sworn Specialists), which is renewed every five years, and it seems that this role is relatively close to PE. In addition, there is a qualification for structural design, which is a mandatory qualification for building projects by state law.

3.4 European Engineer (EUR ING)

It is a qualification that recognizes the highest level of professional competence common to 33 European countries and is FEANI (Fédération Européenne d'Associations Nationales d'Ingénieurs/European Federation of National Engineering Associations: European National Federation of Engineering Associations) (5) The roster is maintained. The accreditation standard is to have a master's degree in basic engineering (some countries, such as the UK, require a certified engineer title such as Chartered Engineer).

FENRI was established in 1951, but this system was developed based on European Directive 89/48/EEC (currently 2005/36/EC European professional qualification directives), and since it is a relatively new system, it is still not well known. ◦

4. The Importance of Degrees in Germany

As you can see, in Europe, especially in Germany, "degrees" are very authoritative. For example, even hotels and airline reservation sites in Germany often have a field for entering a title (many of them are doctorates or professors). I also often feel that there is a big difference in my ability to speak.



The image shows a portion of a web form with the following fields:

- Salutation ***: A dropdown menu with "PLEASE CHOOSE" selected.
- Title**: A dropdown menu with "PLEASE CHOOSE" selected. A secondary dropdown menu is open, showing "PLEASE CHOOSE", "DR.", and "PROFESSOR".
- Last name ***: A text input field.
- Company ***: A text input field.

Fig. 1 Degree entry field on the reservation page

One of the reasons for this is the German school system. In Germany, selection for further education and vocational training begins around the age of 10 at the end of primary education, and the route to university is the so-called elite course. In addition, Abitur, which is a common entrance examination for universities, is quite high-level, and you take 6 ~ 12 written exams and oral examinations according to your desired career path and receive a pass/fail decision (the past two years' worth of school grades also fall into the criteria).

Abitur seems to have slightly different problems depending on the state, but the second exam for an engineer, in which one math subject takes 4 hours and in German essay writing takes 5 hours to write about 10 ~ 15 sheets in A4, is also a surprising amount. There are also subjects such as Latin, philosophy, and psychology that you would not find in Japanese entrance examinations, and it can be said that the contents are the culmination of elite education. In addition, the qualification for this examination is limited to two times, and polygamy in Japan is not allowed. On the other hand, if you pass the exam here, you can enter the university without taking an exam, so it can be said that it is a crucial exam (I witnessed that past questions and question

books are piled up in the bookstore).

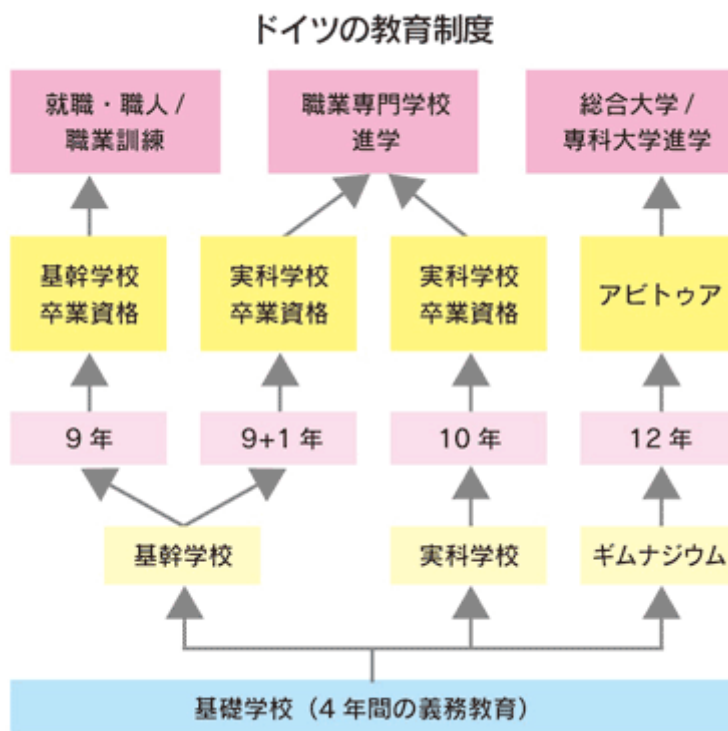


Fig. 2 German school system ⁽⁶⁾

Nor is university education itself sweet. The criteria for reaching it have become clear, and those who do not reach that point will be mercilessly rejected. In addition, there are many universities that stipulate the number of times you can take a pass/fail examination of one subject.

In other words, it is a degree that a person who has been cultivated with personality and ability as an elite struggles to grasp, and it is certainly not strange that it has earned the respect of society. I know that when it comes to a doctorate, you're going to be looked at. I came to know that while investigating.

5. Summary

The contents of the survey this time are summarized in Fig. 3. Basically, there is no doubt that the European accredited engineer system is based on degrees. And it functions as a Professional qualification because it is the result of the pottery of character and ability of elite education, and because of its self-purification effect that if the university that confers the degree deems unsuitable, the degree will be revoked.

Needless to say, European universities have a very long history, the University of Bologna in Italy founded in 1088, and the University of Vienna in German-speaking countries, founded in 1365, is said to be the oldest. While the system of accreditation of degrees that such universities have traditionally cultivated will be reconciled in the wake of EU integration to make it more internationally compatible, There are traces of the struggle to maintain the authority and the good aspects of traditional things. We hope to continue to investigate this area.

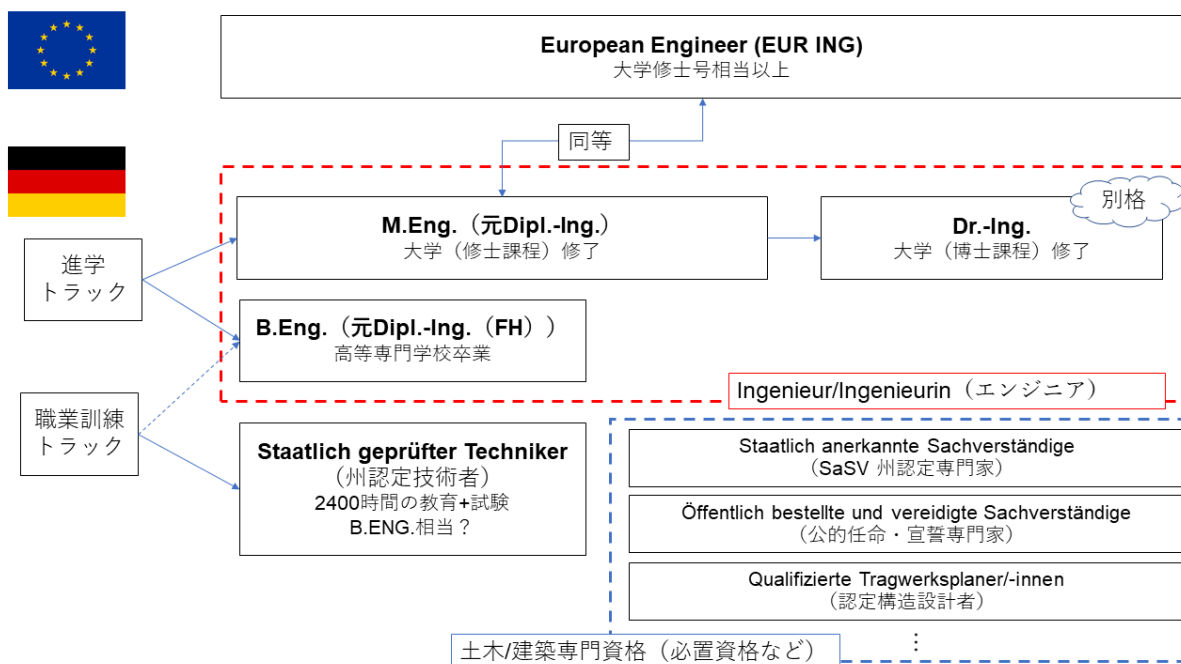


Fig. 3 Positioning of certified engineers in Germany (Dressage survey)

< References >

- (1) "Measures to improve the engineer system" (Reference 6) Outline of engineer qualification systems in countries around the world, Council of Certified Engineers, <https://www.engineer.or.jp/topics/kaizen/sanko6.html> (Confirmed on June 13, 2022)
- (2) NRW Engineer Act Ingenieurgesetz NRW (IngG NRW) https://recht.nrw.de/lmi/owa/br_text_anzeigen?v_id=2720070525140950967 (confirmed June 13, 2022)
- (3) Anerkennung der Berufsbezeichnung "Ingenieur / Ingenieurin" <https://www.brd.nrw.de/themen/kommunales/handel-handwerk-gewerbe/anererkennung-der-berufsbezeichnung-ingenieur-ingenieurin#:~:text=der%20n%C3%A4chsten%20Seite,-In%20der%20Bundesrepublik%20Deutschland%20ist%20die%20Berufsbezeichnung%20%E2%80%9EIngenieur%2FIngenieurin%E2%80%9C,naturwissenschaftlichen%20oder%20technischen%20Hochschulstudiums%20voraus.> (Confirmed June 13, 2022)
- (4) NRW Design Engineers Association Ingenieurkammer-Bau Nordrhein-Westfalen <https://ikbaunrw.de/kammer/gesellschaft/meldungen/Baumpflanzaktion.php> (Confirmed June 14, 2022)
- (5) FENRI official website, <https://www.feani.org/> (confirmed June 15, 2022)
- (6) "Troubled School Education System", News Digest, 2014.6.23 <http://www.newsdigest.de/newsde/news/featured/6085-980/> (confirmed on June 15, 2022)

Tokoh Nishikubo
(PE-0253, Electrical, Delaware)

It is very unfortunate that Japan is still in a state of isolation (albeit with some changes), and this April I went cycling to Hawaii on a private vacation, and at that time, I had the opportunity to think again about what proof is and what is an appropriate test, so I would like to share it with you.

Negative certificate, I'm sure you've heard this phrase before. This is a certificate of being Negative in the COVID-19 test, but it is required for entry into Hawaii (now abolished) and re-entry into Japan (continuation). Specifically, the following conditions must be met as required: A negative certificate can be issued one day before departure from Japan on the Internet = When I searched for a place where I could get the same day test results, I found that it is around Kansai International Airport and Itami Airport and major airports in Kansai, but the majority of places that cost less than 10,000 yen just to issue a certificate (In many cases, it takes several hours until the test result comes out in the first place, The institutions that can prepare for the day before departure are quite limited). I also felt a strange sense of concession, but I was outraged as to why I needed to be paid so much when I was just printing the results, so I decided to investigate a little more.

The quarantine conditions for the United States, including Hawaii, appear to have been determined by the Centers for Disease Control and Prevention (CDC), and when I checked the original text, it seems that the requirements for those entering the country are negative test result before 1 day from flight, it was translated as a certificate in Japanese, so I thought that Certification was necessary, but it was just an examination result (why did you make such a Japanese translation?). Moreover, if it could be linked that the test result belonged to the traveler himself/herself, the result did not have to have such personally identifiable information (passport number, date of birth, etc.), and it was a very rational operation. That? Then, if you can get the result of simply negative one day before departure, you do not need to bother to have a large amount of paper issued by an inspection agency. So, I took an antibody test of ¥1,500 at Itami Airport, received a piece of paper with the noun size negative written on it, and left Japan safely. Even when I arrived in Hawaii, I was able to enter the country without any particular inspection, because it was okay to be inspected just before the flight.

On the other hand, when entering Japan, it is necessary to visit a medical institution that supports the examination method designated by Japan in Hawaii and pay a high examination fee. What's more, testing can be done 72 hours before departure, which means that even if you get infected with the new coronavirus while sightseeing for up to two days after testing, you can still enter the country. When entering Japan, take a test at the airport (at Narita Airport, the capacity of about 200 people per hour and entering the third year, but it remains very poor and forced to wait for a long time), if it is positive, it is quarantine, if it is negative, it is an entry flow, but if you are tested at the time of entry, I didn't understand why I needed to be tested before I left Hawaii. In the case of entering the United States, it makes sense not to be tested at the time of entry because you have passed the last minute inspection. No matter how I thought about entering Japan, I did not understand the meaning of testing three days in advance.

Finally, it goes without saying that strictly enforcing quarantine at the time of entry in a pandemic is necessary to ensure the safety and health of society. However, if you do not adopt an appropriate method according to the situation at the time, the purpose and means will be reversed, and you will end up with a system that does not know what you want to do. P. Protecting Society E. However, I felt again that I should never forget this, after seeing the pathetic way.

Comparison of COVID-19 tests required upon entry into Hawaii and Japan

	Entering Hawaii	Re-entry into Japan
Negative certificate	Necessary (now abolished)	Required (still ongoing)
Appraiser	No question (self-examination is possible)	Medical institutions only
Inspection method	Methods with confirmed effectiveness	Ministry of Health, Labour and Welfare Designated Act only
Restrictions on specimen acquisition	Up to 1 day before departure	departure 7 2 hours ago
Inspection Costs	Free ~ 30,000 yen	200~300 USD
Certificate issuance fee	Free ~ 10,000 yen	- (Free of charge for PDF issuance in principle)
Required Information	Be able to verify your identity in some way	Identity verification is required by certificate alone
Certificate Form	None specified	Suggested form
Inspection at the time of entry	unnecessary	necessity

Classification of quarantine measures when entering Japan

滞在していた国・地域の区分	有効なワクチン接種証明書	入国時の検疫措置		
		出国前検査 <small>全員必須</small>	到着時検査	待機
 青 米国、英国、他	問わない	○	×	×
 黄 ベトナム、インド、他	あり	○	×	×
	なし	○	○	自宅3日間 ※1
 赤 パキスタン、他	あり	○	○	自宅3日間 ※1
	なし	○	○	施設3日間 ※2

※1 待機3日目に検査を受検し陰性を確認した場合。検査を受検しない場合は7日間。

※2 施設待機3日目に検査を受検し陰性であれば、待機解除。

Countries and Regions of each category

	Asia and Oceania	North America	Latin America	Europe	Middle East and Africa
RED	Pakistan, Fiji			Albania	Sierra Leone
YELLOW	India, North Korea, Kiribati, Cook Islands, Samoa, Sri Lanka, Solomon Islands, Tuvalu, Tonga, Nauru, Niue, Nepal, Vanuatu, Bhutan, Brunei, Viet Nam, Marshall Islands, Macao, Micronesia, Maldives		Antigua and Barbuda, Uruguay, Guyana, Cuba, Grenada, Suriname, Saint Christopher and Nevis, Saint Vincent and the Grenadines, Saint Lucia, Dominica, Trinidad and Tobago, Nicaragua, Haiti, Bahamas, Barbados, Venezuela, Belize, Peru, Honduras	Andorra, Ukraine, Uzbekistan, Kazakhstan, North Macedonia, Cyprus, Kosovo, San Marino, Georgia, Tajikistan, Turkmenistan, Vatican, Belarus, Portugal, Malta, Moldova, Liechtenstein	Angola, Yemen, Egypt, Eswatini, Eritrea, Oman, Cabo Verde, Gabon, Gambia, Guinea, Guinea-Bissau, Kuwait, Comoros, Republic of Congo, Democratic Republic of Congo, Saudi Arabia, Sao Tome and Principe, Syria, Zimbabwe, Sudan, Seychelles, Equatorial Guinea, Senegal, Somalia, Chad, Central African Republic, Tunisia, Togo, Turkey, Namibia, Niger, Western Sahara, Palestine, Burkina Faso, Burundi, Botswana, Mali, Mauritius, Mauritania, Libya, Liberia, Lesotho, Lebanon
BLUE	Indonesia, Australia, Republic of Korea, Cambodia, Singapore, Thailand, Taiwan, China, New Zealand, Papua New Guinea, Palau, Bangladesh, East Timor, Philippines, Hong Kong, Malaysia, Myanmar, Mongolia, Laos	Canada, United States of America	Argentina, Ecuador, El Salvador, Guatemala, Costa Rica, Colombia, Jamaica, Chile, Dominican Republic, Panama, Paraguay, Brazil, Bolivia, Mexico	Iceland, Ireland, Azerbaijan, Armenia, Italy, United Kingdom, Estonia, Austria, Netherlands, Greece, Kyrgyz Republic, Croatia, Switzerland, Sweden, Spain, Slovakia, Slovenia, Serbia, Czech Republic, Denmark, Germany, Norway, Hungary, Finland, France, Bulgaria, Belgium, Poland, Bosnia and Herzegovina, Monaco, Montenegro, Latvia, Lithuania, Romania, Luxembourg, Russia	Afghanistan, United Arab Emirates, Algeria, Israel, Iraq, Iran, Uganda, Ethiopia, Ghana, Qatar, Cameroon, Kenya, Côte d'Ivoire, Zambia, Djibouti, Tanzania, Nigeria, Bahrain, Benin, Madagascar, Malawi, South Africa, South Sudan, Mozambique, Morocco, Jordan, Rwanda

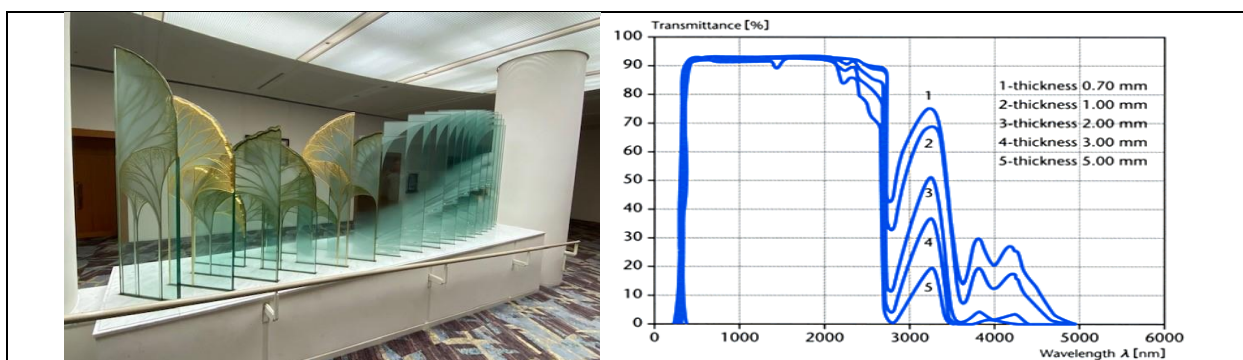
10 Variables from PEple

10.1 Books

This is a corner where JSPE members introduce books in fields that are deeply involved. We

10.2 Engineering close to you

It is a corner where you can introduce the excitement when you discover engineering in something casual, and how you



An exhibition of glass art at Koriyama Hall in Nara where I went to listen to a regular classical concert. It is a simple thing that sculpts the surface of the glass and puts a gold rim on it, but the green color of the glass shines well, and it is unexpectedly crispy. Not limited to glass, the transmittance of electromagnetic waves in materials decays exponentially with respect to the thickness of the material. The wavelength of 450 ~ 550 nm, which indicates blue to green, has a noticeable difference in attenuation as shown in the above figure, and it is pleasing to the human eye by slightly changing the thickness.

(PE-0253 Tokoh Nishikubo)



One piece in the bicycle parking lot. The chain of the bicycle was badly rusted and sad. Many people are too insouciant to say that if you apply oil properly, it will last longer, the gear and chain will be lubricated better, the pedaling force can be transmitted correctly, and it will be easy to grind. I think it is a good example that engineering has not yet penetrated in Japan.

(PE-0253 Tokoh Nishikubo)

10.3

Between the Five Senses

As a plaza of Iko, it is a corner that posts what is captured as "beauty" by the five senses, sketches, drawings, drawings, photographs, anything is fine. Whether or not there is engineering, please provide what you feel is "beauty" such as carefully designed and manufactured equipment that makes you feel the beauty of function, man-made objects that are



Metal wind chimes I saw as souvenirs on Oahu. There was a preconceived notion that wind chimes were meant to be enjoyed with the sound of a chilling chime, but this is something to be enjoyed with the eyes. The multiple metal rings rotated and rotated by the wind, changing the reflection of the light on the metal plate, which made it sparkling and pleasing to the eye. Eventually, wind chimes like this may come to be seen in Japan.

(PE-0253 Tokoh Nishikubo)



I've been on business trips to India for a while, and I'm getting tired of eating at hotels, so I'm cooking and eating local food sold at a nearby supermarket. Among them I found a food similar to dumplings called "peaches". The shape is the dumpling itself. When I looked it up, I found the explanation "Nepalese dumplings", and it seems that dumplings originating in China spread to India after crossing to Nepal and becoming a local dish in Nepal. As written on the bag, no meat is used (meat substitute), but the taste is comparable to dumplings using meat, and it is very delicious. I felt that the texture and taste of meat substitutes have developed to the point where they are indistinguishable from real meat. In the past, when it came to meat substitutes and fish, it was said that the contents were completely different tastes by imitating only the shape, but I thought that by replacing meat with meat substitutes, it became possible to provide it to vegetarians and people with religious restrictions without losing the original texture and taste.

(PE-0193 Hisakazu Sato)

The following list is a collection of books held by JSPE, and we will **transfer them free of charge to members who can contribute articles introducing the books**. There are some books that are a little old, but there are many good books, so I hope you will make use of them. If you are a member who is interested, please contact the Public Relations Subcommittee (public.2007@jspe.org). In addition, **if you would like to donate a good book that is no longer needed**, please inform the Public Relations Subcommittee as well.

JSPE-owned book list

public ation	title	Author and Editor	URL
1987	Managing Technology	F. Betz	https://www.amazon.co.jp/dp/0135508495
1990	Construction Business Law and Engineer System	Construction Industry Division, Construction Economics Bureau, Ministry of Construction	https://www.amazon.co.jp/dp/4802876998
1990	Thorough Verification of the Technological Competitiveness of Japan and the United States	High-Tech Strategy Study Group	https://www.amazon.co.jp/dp/4532062810
1991	Macro Project Successes and Failures	P. Morris	https://www.amazon.co.jp/dp/4753654052
1994	International Qualification Path to Professional Engineer	Japan PE Council	https://www.amazon.co.jp/dp/4478800243
1996	Sociology of Construction	Tomoya Shibayama	https://www.amazon.co.jp/dp/4381009371
1997	Phase of Technical Knowledge: Viewpoint of Process Knowledge	Hiroyuki Yoshikawa	https://www.amazon.co.jp/dp/4130651110
1997	Scope of Technical Knowledge: Artifact Environment and Knowledge	Hiroyuki Yoshikawa	https://www.amazon.co.jp/dp/4130651137
1997	The Essence of Technical Knowledge: Contextuality and Creativity	Hiroyuki Yoshikawa	https://www.amazon.co.jp/dp/4130651129
1998	What it means to be an engineer	Hiroyuki Iino	https://www.amazon.co.jp/dp/4841902414
1999	Global Ethics and Environment	Nicholas Low	https://www.amazon.co.jp/dp/B000FBF912
1999	Kinmen Bridge Construction Record Video	-	-
1999	Project Management Innovation: Optimal Use of Human Resources, Processes, and Tools	Yoshiaki Shibao	https://www.amazon.co.jp/dp/4820116649
1999	Illustrated International Standard Project Management – PMBOK and EVMS	Toru Nozawa	https://www.amazon.co.jp/dp/4817103213

2000	Engineer Your Way to Success	Shawn P. McCarthy	https://www.amazon.co.jp/dp/0915409178
2000	Ethics and the Built Environment (Professional Ethics)	Warwick Fox	https://www.amazon.co.jp/dp/0415238781
2000	Engineers are in danger now	Kazuyoshi Mori	https://www.amazon.co.jp/dp/4837803997
2000	Industrial Technology Strategy	National Institute of Industrial Technology, Ministry of International Trade and Industry	https://www.amazon.co.jp/dp/4806526347
2000	Reengineering Yourself and Your Company	H. Eisner	https://www.amazon.co.jp/dp/0890063532
2000	PMBOK Japanese Version	PMI	https://www.amazon.co.jp/dp/1930699204
2000	The Global Standard for PE Engineers	PE-NET Workshop	-
2000	Environment and the Ethics of Technologists	P. Aan Vegilind, Environment Subcommittee of the Japan Society of Engineers	https://www.amazon.co.jp/dp/4621047795
2001	Engineers View of Human Error	Trevor Kletz	https://www.amazon.co.jp/dp/B07D18VWZQ
2001	Ethics Tools and Engineers	Raymond Spier	https://www.amazon.co.jp/dp/B001EHDNFC
2001	Advice from FEPE Successful Applicants	PE Education Kato Ore	
2001	Taking Technical Risks: How Innovators, Managers, and Investors Manage Risk in High-Tech Innovations	Lewis M. Branscomb	https://econpapers.repec.org/bookchap/mtptitles/0262524198.htm
2001	The Ethics of Science Learners: Tokyo University of Fisheries Open Symposium	Etsuo Watanabe	https://www.amazon.co.jp/dp/4425981014
2001	Technology in the Maze	H Collins	https://www.amazon.co.jp/dp/4759808728
2001	Engineering Ethics for the First Time	Ryofumi Saito	https://www.amazon.co.jp/dp/481220108x
2002	PE Exam Manual - Aim for it! PE/FE	Takao Toshimitsu Wao Publishing	https://www.amazon.co.jp/dp/4820740881
2002	Introduction to Engineering Ethics	Roland Singsinger, translated by Nishihara	https://www.amazon.co.jp/dp/4621070088
2002	P2M Project and Program Management	PM Accreditation Center	-
2002	PE Exam Manual - Aim for it! PE/FE	Takao Toshimitsu Wao Publishing	https://www.amazon.co.jp/dp/4820740881
2002	2nd Edition Ethics of Scientists and Engineers	Charles E. Harris Jr. Translated by the Japan Society of Engineers	https://www.amazon.co.jp/dp/4621049992

2003	Scientific expedition to follow nanotechnology	Takashi Tsujino	https://www.amazon.co.jp/dp/4822281582
2003	American Logic	Tatsuhiko Yoshizaki	https://www.amazon.co.jp/dp/410610007X
2003	Jefferson Arch Construction Record Video	-	https://www.amazon.co.jp/dp/1933233044
2003	Ethics of Engineers: Aiming to Become Trusted Engineers	Ryohei Imamura	https://www.amazon.co.jp/dp/4306023648
2003	Ethics of Civil Engineers: Focusing on Case Studies	The Japan Society of Civil Engineers, Japan Civil Engineering Board of Education Ethics Education Subcommittee	https://www.amazon.co.jp/dp/4810604497
2003	Technical Risk Assessment	Mark G. Stewart	https://www.amazon.co.jp/dp/462794571X
2003	Engineering Ethics and Law and Engineering	Katsuhiko Shimizu	https://www.amazon.co.jp/dp/4320071530
2003	Japan's technological wisdom nurtured by the climate	Yoshio Osaka	https://www.amazon.co.jp/dp/4925085689
2004	Introduction to Technology Management	Kenzo Fujisue	https://www.amazon.co.jp/dp/4822243877
2004	How to improve the skills of engineers	Atsuo Mizushima	https://www.amazon.co.jp/dp/B012WC9VQM
2004	Creative Technology and Product Development	Kazuo Takemasa	https://www.amazon.co.jp/dp/4434046721
2004	Let's become a proud engineer Nagoya University	Kotaro Kuroda	https://www.amazon.co.jp/dp/4815804850
2004	Continued: Examples and Considerations of Ethics for Scientists and Engineers	U.S. NSPE Ethics Review Committee, translated by the Japan Society of Engineers	https://www.amazon.co.jp/dp/4621074458
2004	Examples and Considerations of Ethics for Scientists and Engineers	U.S. NSPE Ethics Review Committee, translated by the Japan Society of Engineers	https://www.amazon.co.jp/dp/4621047949
2004	Biotechnology: Its Impact on Society	Yukio Karabe	https://www.amazon.co.jp/dp/4595543840
2004	Flexible and professional - to you who aim to become a scientist and engineer	Japan Women's Engineers Forum Investigative Committee	https://www.amazon.co.jp/dp/4883850587
2005	Aspects of Engineering Ethics: Intellectual and Ethical Issues in Engineering	Ryofumi Saito	https://www.amazon.co.jp/dp/4888488886
2006	Technological literacy for social literacy	Hiroshi Sakurai	https://www.amazon.co.jp/dp/4486017323
2006	Building for Professional Growth	Paul H. Robbins	https://www.amazon.co.jp/dp/B072B8ML55
2011	Quotes from Scientists Who Changed the Times	Akira Fujishima	https://www.amazon.co.jp/dp/4487805317

2012	Algae Handbook	Shin Watanabe	https://www.amazon.co.jp/dp/4864690022
2014	Engineering Ethics for the First Time	Ryofumi Saito	https://www.amazon.co.jp/dp/4812213495
2017	Ethics of Scientists and Engineers	Kanazawa Institute of Technology	https://www.amazon.co.jp/dp/4561256997
2017	Kanazawa Institute of Technology Engineering Ethics Education PR Pamphlet	-	-
2018	PMI Japan Talent Triangle	PMI Japan	https://www.amazon.co.jp/dp/4828205985
2018	Nikko Kyokyo Oriented Ethics Seminar	-	-

Board Topics

The matters discussed at the extraordinary meeting of the Board of Directors in April and the ordinary meeting in May are as follows: Details of each matter are posted on the member site – JSPE Board of Directors minutes. <https://www.jspe.org/member/report/>

The July Board meeting will be held on July 16, 2022, and the September meeting will be held on September 10, 2022. If you are a member who wishes to participate as an observer on the Board of Directors, please contact the Secretariat managers@jspe.org.

【April Extraordinary Board of Directors】**Agenda items**

- ◇ Action plans and budgets of each subcommittee for fiscal 2022
- ◇ Consultation on responses to proposals from members regarding JSPE initiatives

Matters to be Reported

- ◇ Fiscal 2021 Accounting Audit Implementation Report
- ◇ Sharing the status of preparation of business reports
- ◇ Sharing of draft of the General Conference Proposal
- ◇ Agreement to publish state registration experience report for JPEC on the public website
- ◇ Advance sharing of explanations from JSPE at the JPEC exam briefing session

【May General Board of Directors】**Agenda items**

- ◇ Changes in the number of members
- ◇ Decided to hold the general meeting in a hybrid format without social gatherings
- ◇ Approval of the Board of Directors on matters for deliberation at the General Assembly
 - Proposal No. 1: FY2021 Activity Report and Financial Results Report
 - Proposal No. 2: Amendment to the Articles of Incorporation (to deal with electromagnetic methods such as proceedings and verdicts)
 - Proposal No. 3: Draft Action Plan and Budget for Fiscal Year 2022

Matters to be reported

- ◇ Preparation for the general meeting and sharing of responsibilities of each director
- ◇ Confirmation of procedures after the general meeting
- ◇ Readiness for the 2021 Business Report

Homepage, SNS, Member E-mail News

Thank you for always using the JSPE website and SNS. The Public Relations Subcommittee strives to provide useful and up-to-date information on the website such as updating PE exam registration, etc., but if you have any comments or comments such as whether it would be convenient if this was posted on the JSPE website or the information posted was useful, please contact the Public Relations Subcommittee public.2007@jspe.org. Thank you.

【CPD Seminar】**【The 343rd Onijin CPD Seminar/343rd Onikin CPD Seminar】**

Date: Saturday, April 16, 2022

Participants: (Web viewing): 31 (26 PEs, 4 PEN, 1 non-member)

Title of Lecture: Infrastructure Management Support for Local Governments and Diagnostic Technology Utilizing Data Science

Lecturer: University of Fukui, Associate Professor, Professor Keigo Suzuki

We invited Dr. Keigo Suzuki, Associate Professor of the University of Fukui, as a lecturer, and gave a lecture on the theme of "Infrastructure Management Support for Local Governments and Diagnostic Technology Utilizing Data Science." I think that the importance of preventive maintenance-type maintenance and management of aging facilities is common not only for civil engineering structures but also for various facilities, but I learned about the issues that local governments face in carrying out such measures, the utility of labor saving, and how to apply data science to them. I would like to take this opportunity to express my gratitude to Dr. Suzuki for his lecture.

【22nd JSPE Annual Meeting Special Seminar】

Date: Saturday, June 11, 2022

Participants: 61 (57 PEs, 3 PEN, 1 non-member, 2 non-members)

Title: Engineering Ethics 2.0: For the well-being of people, organizations, and society

Lecturer: Waseda University Professor Jun Fudano

What role should engineers play in the new era known as the "VUCA era"? We confirmed that the purpose of science and technology is "well-being" for people and society, and examined the necessity of shifting from the conventional "preventive ethics" of engineer ethics 1.0, which emphasizes "what should not be done", to the new engineer ethics 2.0, which includes "oriented ethics" that considers "what should be done" and takes action.



【CPD Seminar】

For the latest information on this year's events, please check the following URL.
<https://www.jspe.org/events/>

年月日	曜日	時間	行事名・内容	場所	問い合わせ先	備考
2022年7月1日	金	-	JSPEマガジン夏号配信	会員にメール通知	広報部会 public.2007@jspe.org	
2022年7月16日	土	9:30-12:00	7月度理事会	東京Mixer/Zoom	事務局 webmaster@jspe.org	
2022年7月27日	水	19:00-21:00	エンジニアズサロン (1)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2022年8月1~3日	月~水	-	NSPE総会	Philadelphia	事務局 webmaster@jspe.org	
2022年8月10日	水	19:00-21:00	エンジニアズサロン (2)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2022年9月3日	土	10:00-12:00	鬼金セミナー (1)	関西TBD, 関東TBD/ Zoom	教育部会・鬼金分会 rep@jspe.org	
2022年9月10日	土	9:30-12:00	9月度理事会	東京・TBD/Zoom	事務局 webmaster@jspe.org	
2022年9月14日	水	19:00-21:00	エンジニアズサロン (3)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2022年10月1日	土	-	JSPEマガジン秋号配信	会員にメール通知	広報部会 public.2007@jspe.org	
2022年10月8日	土	10:00-12:00	鬼金セミナー (2)	関西TBD, 関東TBD/ Zoom	教育部会・鬼金分会 rep@jspe.org	
2022年10月22日	土	13:00-16:20	JSPE Day (Day 1)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2022年10月29日	土	13:00-16:20	JSPE Day (Day 2)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2022年11月12日	土	9:30-12:00	11月度理事会	東京Mixer/Zoom	事務局 webmaster@jspe.org	
2022年11月19日	土	10:00-12:10	鬼金セミナー (3)	関西TBD, 関東TBD/ Zoom	教育部会・鬼金分会 rep@jspe.org	
2022年12月10日	土	9:30-12:00	技術CPDセミナー(2)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2022年12月24日	土	10:00-12:10	鬼金セミナー (4)	関西TBD, 関東TBD/ Zoom	教育部会・鬼金分会 rep@jspe.org	
2022年1月1日	日	-	JSPEマガジン冬号配信	会員にメール通知	広報部会 public.2007@jspe.org	
2023年1月7日	土	-	技術施設見学会	TBD	教育部会 education.2007@jspe.org	
2023年1月14日	土	9:30-12:00	1月度理事会	東京Mixer/Zoom	事務局 webmaster@jspe.org	
2023年1月21日	土	10:00-12:10	鬼金セミナー (5)	関西TBD, 関東TBD/ Zoom	教育部会・鬼金分会 rep@jspe.org	
2023年2月8日	水	19:00-21:00	エンジニアズサロン (4)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2023年2月18日	土	10:00-12:10	鬼金セミナー (5)	関西TBD, 関東TBD/ Zoom	教育部会・鬼金分会 rep@jspe.org	
2023年3月1日	水	19:00-21:00	エンジニアズサロン (5)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2023年3月11日	土	9:30-12:00	3月度理事会	東京・TBD/Zoom	事務局 webmaster@jspe.org	
2023年3月18日	土	-	技術CPDセミナー (3)	関西TBD, 関東TBD/ Zoom	教育部会 education.2007@jspe.org	
2023年3月25日	土	14:00-17:00	FY2021PE/FE受験・登録相談会	関西TBD, 関東TBD/ Zoom	会員部会 membership.2007@jspe.org	

* In light of the impact of the coronavirus, we will adjust the schedule and implement it.

【Technical CPD Seminar】

< Engineers' Salon >

Wednesday, July 27, 2022

Wednesday, August 10, 2022

< NSPE General Assembly >

August 1~3, 2022, Philadelphia

* Since the participation fee will be subsidized, please contact the Planning Committee if you wish to participate.

< Onikine Seminar >

Saturday, September 3, 2022

【Board Meeting】

【July Board of Directors】

Join Date: 202 Saturday, July 16

【September Board of Directors】

Date: Saturday, September 10, 2022

- Name: Atsushi Kotani
- Membership number: FE-0426
- Qualifications: Maritime Assistant, Third-Class Marine Engineer (Navigation), Weather Forecaster, Engineer First Exam (Marine and Marine Division), FE Mechanical Odor judges, lawyers, etc.
- Specialized field: Marine and marine engineering
- Motivation for enrollment: Gathering information for acquiring :P E (especially Naval Architecture and Marine Engineering)
- Self-introduction: In addition to working as a lawyer (belonging to



the Tokyo Bar Association) whose main job is to resolve disputes related to maritime accidents, I am also engaged in analysis and investigation of technical facts such as the cause of accidents, which are prerequisites for the application of the law, by utilizing basic knowledge and history related to engineering.

Outside of work, I am also interested in research and education on general technical history and engineering ethics.

- What we hope for JSPE: Although it is a minor area of expertise (Naval Architecture and Marine Engineering), we would be grateful if you could ask us to provide information and exchange information.

- Name: Nobuyuki Narisawa
- Membership number: :PEN-0228
- Qualifications: Certified Engineer (Machinery Division)

- Specialized field: Mechanical design
- Motivation for joining: Gathering information for PE registration



- Self-introduction:

I am in charge of development and design at an industrial machinery manufacturer. I passed the PE exam in April of this year and am currently preparing the documents for the NCEES academic background assessment for PE registration. Until now, I don't have much experience in overseas-related work, and taking the PE exam was like an extension of self-improvement, but recently there has been talk of strengthening cooperation with North American bases, and I have a faint expectation that there will be more opportunities to make effective use of PE qualifications in the future. Through JSPE membership activities, I would like to hear from people who have actually registered as PE and who are utilizing their PE qualifications. Best regards.

- What we want from JSPE: Support and information on PE registration

As mentioned in the NCEES topics of this issue, many states have set aside a renewal of their PE licenses in June ~ July. My state of Delaware is one of them, and this is my second update. I not only attend JSPE seminars on a daily basis, but also take NSPE 15 free courses, so I have never had any trouble with CPD. When it comes to updating, "Bad... I've been busy lately and haven't been sorting it out." On the other hand, PMPs who also need to renew their licenses can enter their course records on the PMI homepage, and whether the current pace of learning is sufficient until the update. You can see at a glance how much learning is lacking and information in anticipation of the next update. Looking back on JSPE's seminars, from around 2014 when I joined to the present day, CPD certificates have been issued after the seminar. Issued (recently a PDF is issued after a questionnaire) and is required for deed and renewal. The management of study time is managed by each person. Regardless of whether or not JSPE is held, if you can register the seminars you have taken and centrally manage them with your learning history, CPD certificate, or JSPE website, in addition to being convenient for many members. I think that the frequency of accessing the JSPE homepage will increase, and the activities of the association will be more active. The on-demand seminar, which we considered introducing in fiscal 2021, was found to require large-scale website renovation due to the compatibility of the tools to be introduced and the current website, and we have established a task force to promote it toward the realization of the seminar in fiscal 2022. We would like to expand the functions of this website so that it is easy for members to use, so please let us know your opinions and ideas to the Public Relations Subcommittee. We are also looking for members of the task force, so if you are interested, let's build the next generation of JSPE together.

2022 June 21

Tokoh Nishikubo (Magazine Editor-in-Chief)

If you have any concerns, suggestions, questions, or contributions, please contact the Public Relations Committee public.2007@jspe.org.

【Editorial Committee】

Nishikubo (Chief Editor)

Inaba (Board of Trustees Topics, Report on the CPD Seminar of the Education Subcommittee, Coming Events)

Sato (Ikoi no Plaza)

Fujimura (FE/PE pass, PE registration experience, introduction of new members)

Jinno (Ethics), Hirose (Ethics Reviewer), Moriyama/Ito (General editing)

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