理工学部・総合情報学部開設10周年記念対談

Commemorative talk for the 10th anniversary of the establishment of the Faculty of Science and Engineering and the Faculty of Information Sciences and Arts

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Profile

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As a professor and D. Eng., Dr. Ishida specializes in civil engineering, geotechnical engineering, and civil environment systems. At Toyo University, he teaches in the Department of Civil and Environmental Engineering, Faculty of Science and Engineering, and in the Course of Civil and Environmental Engineering and Course of Architecture, Civil and Environmental System Design, Graduate School of Science and Engineering. He is a member of many related academic societies, including the Japan Society of Civil Engineers (as a fellow member), the Japanese Geotechnical Society, the International Society for Soil Mechanics and Geotechnical Engineering, the Japanese Association of Groundwater Hydrology, and the Architectural Institute of Japan.

総合情報学部長

土田 賢省 つちだ けんせい

Dean of the Faculty of Information Sciences and Arts

Kensei Tsuchida

Profile

教授／博士（理学）。専門分野は、計算機科学、ソフトウェア科学。本学では総合情報学部総合情報学科、大学院総合情報学研究科総合情報学専攻で教壇に立つ。現在は情報科学技術を心理学や生態学、スポーツといった多分野に応用する学際的な研究に注力。一例として視覚障がい者の移動をサポートする誘導用ブロックのAIによる自動レイアウトなど。

As professor and D. Sc., Dr. Tsuchida specializes in computer science and software science. At Toyo University, he teaches in the Department of Information Sciences and Arts, Faculty of Information Sciences and Arts, and in the Course of Information Sciences and Arts, Graduate School of Information Sciences and Arts. He currently devotes his efforts to interdisciplinary research where information science and technology are applied to many fields, such as psychology, ecology, and sports. An example is AI-assisted automatic layout of tactile paving designed to help people with visual impairments to walk on streets.

加速し続ける時代に応える、川越キャンパス

川越キャンパスに工学部が設置されたのは、1961年。高度経済成長を背景に日本初の産学協同の理念が活かされ、多くの賛同と支援を得ました。そして2009年には、現在の「理工学部」と「総合情報学部」に再編。2019年度に10周年を迎えました。この10年はどのような時代だったのか、次の時代をどのように見通すのか、両学部の学部長にお話を伺いました。

Kawagoe Campus provides solutions to an age of accelerated changes

In 1961, the Faculty of Engineering was established at the Kawagoe Campus. Against a backdrop of Japan's high economic growth, the Faculty attracted a favorable reaction and support from various parties, taking advantage of the principle of industry-academia partnerships, the first of this kind in Japan. In 2009, the Faculty of Engineering was reorganized into the Faculty of Science and Engineering and the Faculty of Information Sciences and Arts, both of which marked the 10th anniversary of their founding in AY2019. The Deans of the two Faculties talk about the past decade and what visions they have for the coming age.

社会のニーズに応え、先行してきた10年。

土田： 10年前の再編で生まれた「総合情報学部」は、前身が工学部情報工学科でした。おそらく関東ではいちばん最初の「情報工学科」で、ハードとソフトを両方学ぶというコンセプトも社会に注目されました。
そして「総合情報学部」に改組された時点でも、「第一級の情報の創り手・使い手」を育成することを目標に「文系と理系の融合」をはかるという、斬新なコンセプトに基づいてカリキュラムが組まれました。文系出身者のシステムエンジニア採用など、社会のニーズとして文理融合はすでにあったのですが、文系学生と理系学生を同時にひとつの学部内で教育していくというのは大学としては大きな挑戦でした。
石田： 10年前というのは、リーマンショックや世界的な金融危機があって、日本は深刻な就職氷河期を迎えていました。東洋大学への志願者や学生も、将来安定した仕事に就きたいと公務員などに人気が集まり、その結果、「理系離れ」が進んでしまった。ですから「文理融合」は大きな期待を集めましたね。
土田： 社会のニーズに応えるものであり、また、情報分野への女性の進出にも貢献したと思います。
石田： 一方で、伝統的な理系分野を扱う学科を中心とする新生「理工学部」は、理系離れの時代にどう立ち向かうか。理工系としての魅力をいかに発揮すべきか。さまざまな試行錯誤がありました。バイオやロボティクスなどの新しい分野を取り入れたり（現在の副専攻）、大学経営陣も教職員もさまざまな苦労を重ねたわけです。そうして、時代や社会だけでなく学生の学修意欲を刺激できる、そんな学びを創り上げてきた10年でした。

A decade of prompt and proactive response to social needs

Tsuchida： The Faculty of Information Sciences and Arts was founded as a result of a faculty reorganization in 2009. Its predecessor was the Department of Information Engineering, Faculty of Engineering. That was probably the first department of information engineering in the Kanto region, and its concept of learning both hardware and software attracted attention.
Even when the previous department was reorganized into the Faculty of Information Sciences and Arts, its curriculum was constructed based on the innovative concept of "integration of the humanities and science" aimed at fostering "first-class creators and users of information." While there had been social needs for the integration of the humanities and science, as seen in the employment of humanities students as system engineers, educating both humanities and science students at one faculty was a major challenge for the University.
Ishida： A decade ago, Japanese society faced the serious problem in that young people could not find jobs in the aftermath of the global financial crisis triggered partly by the bankruptcy of Lehman Brothers. Public service became the most popular job among prospective and then-current science students continuously declined. That's why the concept of "integration of the humanities and science" attracted heightened expectations.
Tsuchida： I believe that the concept not only satisfied social needs but also contributed to the increase in the number of women studying and working in the information field.
Ishida： Meanwhile, we at the new Faculty of Science and Engineering, which dealt mainly with traditional scientific disciplines, tackled the challenges of addressing the age in which science was unpopular, and demonstrated the charms of science through trial and error. Both the University management and faculty members made efforts such as incorporating bioscience, robotics, and other new scientific fields (which are currently studied as sub courses). During the past decade, we have established a learning environment that can not only meet the social trends of the times, but also inspire students to study enthusiastically.

期待が集まる、この先の10年。

土田： この10年間の社会を見ると、情報はあらゆる分野で事業やサービス、商品と切っても切れない関係となりました。パソコンだけでなくスマートフォンも普及し、インターネットの高度な活用が急速に進みました。これからは、さらに変化が激しい時代を迎えます。AIやビッグデータ、IoT、超高速・超大容量のモバイル通信の5G時代がもうすぐ本格的に始まります。教育の内容も、今後いっそう幅広くなり、学際的・横断的になっていくでしょう。
石田： 理工学分野でも情報との連携は当然のこととして進んでいますし、両学部横断の学びもさらに必要になってくると思います。学科横断の学びは現在も行っていますが、学部をも超える学びが、もはや普通に求められている。既存の「枠組み」を見直す時代が来ているのかもしれません。
また、本学は留学制度が充実していて川越キャンパスからも海外

Coming decade as a focus of heightened expectations

Tsuchida： During the past decade, information has become closely connected to business, services, and products in all fields. The use of personal computers and mobile devices has permeated our society, and the advanced use of the Internet has rapidly developed. An age of more dramatic changes will come from now. We will soon see the full-scale arrival of an age of AI, big data, the IoT, and 5G communication technology, which will enable super-rapid and super-high-capacity wireless data communication. The content of education will become more diverse, more interdisciplinary, and more intersectional.
Ishida： It is now nothing special for us in the science and engineering field to collaborate with researchers in the information field, and I believe learning beyond the border between the two faculties will become more necessary for students. While our students already study beyond the borders between departments, learning beyond the borders between faculties is becoming more and more necessary as an ordinary style of learning. I suppose we are now in an age that requires us to reconsider existing frameworks. In addition, Toyo University offers many different study-abroad programs, and an

に留学する学生が増えていますが、これは単に国際感覚を磨くというだけでなく、今後はさらに大きな意味を持つと思います。例えば、気候変動・異常気象への対応もそのひとつ。世界中の人々が協力して、地球規模の課題に立ち向かう時代なのです。
私が専門とする土木関連の分野では、治水や防災が改めて大きなテーマになっています。日本においても大型化する台風や激しい大雨にいかに対応するか。過去の設計や知見では追いつかなくなっている為、理工系の人材には課題解決のための期待が寄せられています。
技術職の人手不足が深刻な今だからこそ、学生たちには「就職が楽になった」などとのんびり構えるのではなく、チャンスとして活かしてほしい。もっともっとハングリーに学んでほしいですね。

川越キャンパスが持つポテンシャルとは。

土田： 情報系の分野でも、世界中の人材がアイデアや技術を競い協働する時代です。残念ながら日本はいま各国に抜かれ、差をつけられ始めています。そして本学にもすでに、圧倒的に優秀な留学生がたくさん来ています。そんな環境の中で、いかに学生同士が競い合い、高め合っていけるか。そこを学生も我々ももっと意識しないといけないでしょう。
石田： そして本学の理工学系の存在感をもっと高めたいですね。東洋大学というとどうしても文系イメージが強いですから。そんな期待も込めて、学生たちにはもっと野心を持ってもらいたい。世界の大学を見渡せば、本学でも起業して社長として有名になる人がもっとたくさんいていい。あるいは、卒業してすぐに世界に羽ばたく人も増えてほしい。大学としても、地域連携を重視することに加えて、国際連携もさらに強化していきたいものです。
土田： 川越キャンパスというのは、自然も豊かで本当に得がたい環境、世界に誇れるキャンパスだと感じています。その中に、理工学部と総合情報学部という専門性の高い学びが展開していて、世界からそれらを学びたい学生が集まり、刺激し合い、切磋琢磨し合う。ダイバーシティ（多様性）という意味でも、どの大学にも負けません。高いレベルの好循環が生まれて、優れた人材の拠点としてもっと充実していく、そのポテンシャルがあると感じています。これからの時代の先に広がる川越キャンパスの可能性に、大いに期待したいと思います。

increasing number of students from Kawagoe Campus have been abroad for study. I believe students' overseas experience will become more significant from now on, rather than just helping them build a cosmopolitan sensibility. For example, response to climate change and extreme weather is one of the fields where overseas experience is needed. We are now in an age of global cooperation in overcoming global issues. In civil engineering-related fields, which I specialize in, flood control and disaster risk reduction are now important issues. We in Japan have to address typhoons that have recently become larger and stronger, as well as unprecedented torrential downpours. Since past designs and knowledge cannot provide solutions to such massive disasters, there are high expectations for scientific human resources to achieve solutions. Especially in the present, with society facing a serious shortage of competent technical professionals, I hope that students will take advantage of this situation, instead of relaxing with easier job-hunting activities, and study with a much greater hunger for knowledge.

The potential of Kawagoe Campus

Tsuchida： In the information field, human resources from around the world now cooperate while competing with their original ideas and technologies. Regrettably, Japan has been left behind by competition with other countries, and the gap has grown larger. Toyo University also already has many international students who are overwhelmingly more competent than Japanese students. In this environment, both the students and we ourselves have to become more keenly aware of the question of how Japanese and international students can compete with each other and improve.
Ishida： In addition, I hope to increase the presence of the science and engineering departments and their students at Toyo University, which is often associated with the humanities. With such expectations, I hope that students will become more ambitious. Given the situations at universities around the world, I hope that many more Toyo University students can launch their own businesses and become well-known leaders of their own startups, or leave Japan to search for global careers immediately after graduating. I hope that we at the University will devote stronger efforts to international collaboration, in addition to regional collaboration.
Tsuchida： I believe that Kawagoe Campus boasts a really unrivaled world-level campus environment, together with rich natural features. The Campus is the home of highly specialized learning at the Faculty of Science and Engineering and the Faculty of Information Sciences and Arts, where aspiring students come together to inspire and compete with each other. I believe the Campus is also unrivaled in terms of diversity, and that it has the potential to further develop as a hub for excellent talent with a high level of synergies. I have high expectations for the possibilities of Kawagoe Campus in the future.