

The 15th Japan TRIZ Symposium 2019

Abstracts

June 10, 2019

(1st announcement)

Symposium Executive Committee

EI01 Robert Adunka (Vice-President of the international TRIZ-Association

(MATRIZ) for Europe, Germany)

(Keynote lecture)

**Present Situation of TRIZ in Europe
- Facts, Figures & Success Stories -**

Dr. Robert Adunka

(Vice-President of the international TRIZ-Association (MATRIZ)

for Europe, Germany)

In the first part, the lecture deals with the current figures of TRIZ training in Europe. An attempt is made to establish a link between the individual measures and the development of TRIZ training. Different concepts that work at different company sizes will be presented. Each company size has its own problems with the introduction of TRIZ.

The successful concepts for the implementation and dissemination of TRIZ will be discussed in the lecture. Various interest groups want to establish TRIZ in their countries. Some

of the most successful models are National Conferences, Student Awards, Expert Days, Bar Camps, European Remote Workshops and TRIZ@school.

In order to show that the implementation was successful, the last part of the lecture presents outstanding developments that can clearly be traced back to TRIZ: The Galaxie drive system from Wittenstein, the Airfryer and fruit juicer from Philips and the key switch from Siemens. All these examples show that developers can become systematically creative: "With TRIZ they can"!

JI00 Manabu Sawaguchi (Japan TRIZ Society)

(Tutorial)

What is TRIZ!?

Manabu Sawaguchi (Japan TRIZ Society)

(Japanese only)

JI02 Yuzo Toda (Forum for Innovative Regenerative Medicine)

(Special lecture)

New Business Development and Business Transformation

Yuzo Toda (Forum for Innovative Regenerative Medicine)

The key of new business development is Mining core competence from existing business. The core competences are founded by an excavation process in technology, people and company culture etc. The goal of new business should be Business transformation of your company.

J01 Hajime Kasai (IDEA Inc.)

Application of TRIZ to Product Planning

- Room Air Conditioner as an Example -

Hajime Kasai (IDEA Inc.)

After TRIZ was introduced to Japan for the first time in 1996, it is tried to today in many companies, and by the time it is included in everyday development business in the company which checked the validity, it will spread. Moreover, I put on an in-house training program as part of engineer education, and the company which is going to make the view learned also appears here and there.

Although the writer was engaged in consulting for applying in a company the systematic technique which makes TRIZ the start, most themes of about 170 affairs treated with old TRIZ practice support aimed at acquiring the means of problem solving and subject achievement. On the other hand, as for TRIZ, it is desirable to be utilized also for the plan of the goods which also offer the module which suggests the directivity of technology, such as an evolution pattern, a multiscreen, etc. of a technical system, and are received in a customer (market).

In this announcement, I propose about application of TRIZ to product planning on the topic of the room air conditioner which serves as an indispensable product in everyday life.

J02 Tomohiko Katagiri (IDEA Inc.)

Priority Invention Principle List Classified by

Characteristic of the Contradiction Matrix

- For the Practical and Efficient Use of the [40 Inventive Principles] -

Tomohiko Katagiri (IDEA Inc.)

Among the many problem-solving tools of TRIZ, the [40 Inventive Principles] is one of the tools most utilized because of ease of use of the tool and the many ideas which are generated, etc.

First of all, from a huge number of patents, the 40 Inventive Principles and the Contradiction Matrix analyze the example which solved the problem, find out law nature to the solution, and collect it to 40 pieces as Inventive Principles. In applying to an actual inconsistency problem, the formulization of the inconsistency which a problem holds -> parameter selection of the parameter to improve and the worsening parameter -> extraction of the recommended Inventive Principles (a maximum of four) by application of the inconsistency matrix -> carrying out idea appearance by each of the Inventive Principles. This procedure is recommended.

However, in practice, the target technical characteristic cannot be shapely changed into the 39 parameters in many cases, and selecting two or more parameters cannot narrow down the Invention Principles. If an abstract parameter is selected, Inventive Principles not matching will be recommended. But it is unreal to generate ideas using all the 40 Inventive Principles, and the efficiency of idea generation will be low.

In this paper, to [the parameter to improve] and [the worsening parameter] in the Contradiction Matrix of 39x39, I carry out dignity attachment of the frequency of appearance for every Inventive Principle, respectively, total, and introduce the example which created the table. While the efficiency of idea generation in the above-mentioned contradiction problem is improved by using it as assistance of the conventional Contradiction Matrix, the design trouble which often exists in practice every day, the invention level 1 which Altshuller says: Even if it sets on a problem without contradiction, consider [the parameter to improve] or [the worsening parameter] on a foothold that efficient idea generation by an Inventive Principle becomes possible.

J03 Motoharu Miki (OLYMPUS Corporation)

Promotion of Olympus's Scientific Approach including TRIZ

~ To Construct a Protocol that makes it easy to Utilize 7 Solutions ~

Motoharu Miki, Hiroyuki Tsuchiya (OLYMPUS Corporation)

Olympus has promoted 7 solutions based on QFD, TRIZ, and Taguchi Method to meet the needs of engineers since 2012.

In fact, the problems which engineers face on are complex, so he needs to combine multiple solutions. Under promotion at the site, many engineers say “I do not know how to combine multiple solutions”. To solve this problem, at the beginning, we have construct “7 Steps for Solving Problems” which is a protocol of the application procedure for a solution with highest need. This time, I report the efforts.

J04 Takashi Ogata (IDEA Inc.)

Development of the analysis tool for the purpose of problem that enhance the effectiveness of TRIZ

- Software “iQUAVIS IDEA Package“ -

**Takashi Ogata (IDEA Inc.),
Satoru Naraoka (Information Services International Dentsu, LTD.)**

Function-based analysis is effective in applying scientific methods according to the purpose of problem. In this report, we introduce the tool for analyzing various development issues starting from functional analysis of space and time. This tool merged the Software "iQUAVIS" for visualizing the development provided by Information Services International Dentsu, LTD. and the Concept from rich consulting experience "i-Advanced TRIZ" (Task solution program) provided by IDEA Inc. This tool was developed in collaboration between these two companies.

J05 Takayoshi Ohtsu (National Institute of Technology, Numazu College)

Analysis of the Creative Expressing Method in the New Year's Card Game, by TRIZ

Takayoshi Ohtsu (National Institute of Technology, Numazu College)

It is present-day culture for the time of Reiwa to have come, and for Facebook, Twitter, Instagram, LINE, etc. to use the feeling at that time as language or a photograph, and to contribute to SNS. The act of this creation of "making a thought into a form and telling it by a short text" is similar with "31-syllable Japanese poems", such as the Ten Thousand Leaves of the Nara period. A 31-syllable Japanese poem is the representation of "the culture of subtraction" which I express by "taste-for-the-simple-and-quiet hook", such as the tea ceremony, flower arrangement, calligraphy, and a Japanese garden. In recent years, popularity in and outside the country is increasing by the animation and documentary filmization of the comics "Chihayafuru" on which the "poem card" which Sadaie Fujiwara chose at the Kamakura period drew the high school student who applies passion to a "game card game." Among these 100 poems, 43 poems are a songs of love and their various modes of expression are interesting. Moreover, an understanding of a mode of expression is also made important from a viewpoint of the intellectual property creation education towards Society5.0 as learning of the copyright which is the cultural creation thing which expressed man's thought and feeling creatively. Then, using the "40 Inventive Principles" of TRIZ, I analyzed the mode of expression in the New Year's Card Game, and it turned out that the New Year's Card Game made about 800 years ago is a collection of examples of the creative mode of expression classified like TRIZ.

J06 Kiyohisa Nishiyama (Nagoya University)

Proposal of a Template for the Engineering Field Paper Using VE-TRIZ

Kiyohisa Nishiyama (Nagoya University)

In order for the university of a science-and-engineering system to get globally high evaluation, the paper contribution to a prominent science magazine is indispensable. The presenter is performing English paper writing instruction of the student who mainly majors in the engineering field in such a background. In recent years, in order to inquire efficiently, subdivision is following many special fields of study containing the engineering field. However, in the viewpoint of general paper instruction, even if this compares and is a specialist in a near field, it means that it becomes more difficult to understand the contents of a certain paper and to perform exact instruction. On the other hand, in English paper writing instruction, things which can be guided to some extent also including the matter relevant to the contents, such as not only technical problems, such as English grammar, but composition, will be searched for more. Also in the faculty of technology not only domestic but in the world, such a problem is an unsolved subject, and recognizes it as the great time of a teacher and a student being spent in the present condition, paper writing, and its instruction. Then, the presenter applied the view of the problem setup by VE and TRIZ, devised the template of the paper which crosses the field of engineering and can be utilized, and devised the teacher in paper instruction by utilizing this, and the technique of easing a student's burden. In this announcement, I introduce the outline of a template of the devised paper, and the activity which utilized it.

J07 Narumi Nagase (Japan TRIZ Society)

TRIZ-Rx Subcommittee Activity Report - Part 1

A Bird's-eye View of the Whole Information

Presented in Past Symposia

**Narumi Nagase, Shinsuke Kurosawa, Yuji Mihara, Toshimitsu Kataoka,
Kimihiko Hasegawa, Osamu Ikeda, Fumiko Kikuchi
(TRIZ-Rx Subcommittee, Japan TRIZ Society)**

I will adjust and release the contents of the activity and examination result for the first year of the TRIZ-Rx Subcommittee (Research Subcommittee for practical use of information

presented at past TRIZ Symposia), which started the activity at the TRIZ Symposium last year.

The activity purpose of the TRIZ-Rx Subcommittee is "Arranging the contents presented at past Symposia, and considering a more smart practical use. Arranging systematically from some cut ends, and in what is tied to the development of TRIZ through its reference and application."

In this announcement, I will introduce the situation and part of the prototype construction of a simple DB (database) system which has been tackled in the 1st year, and information that could be extracted in whole bird's-eye view through information arrangement.

J08 Toru Nakagawa (Osaka Gakuin University)

Building Catalogs of TRIZ-related Sites in the World

(WTSP Project) (2)

**Toru Nakagawa (Osaka Gakuin University, Japan),
Darrell Mann (Systematic Innovation Network, UK),
Michael Orloff (Academy of Instrumental Modern TRIZ, Germany),
Simon Dewulf (AULIVE, Australia),
Simon Litvin (GEN TRIZ, LLC., USA),
Valeri Souchkov (ICG Training & Consulting, Netherlands)**

We started the World TRIZ Sites Project (WTSP) in Dec. 2017 for the purpose of building catalogs of TRIZ-related Web sites in the World. Our aims are:

(a) To build Catalogs in each country in their own language first and then in English, and (b) to build the World Catalogs in English first and then translated into various languages. (c) To introduce individual sites appropriately (i.e., briefly but closely), (d) to select useful and important sites appropriately, (e) for various types of people (e.g., unfamiliar to TRIZ, beginners, users, experts, etc.), (f) in the field of TRIZ and relevant methodologies, (g) as reliable information sources in theories, applications, activities, etc.

We already built Japan WTSP Catalog in April 2018. Over 70 voluntary members from 30+ countries joined WTSP, but the actual work of surveying and introducing TRIZ-related sites in individual countries is proceeding only slowly at moment.

We are also conducting global surveys of sites located in individual countries, written in major languages, and in wider scopes of methodologies, etc. for accumulating data of useful sites.

We are planning to make the WTSP Catalogs capable for users to extract and find useful and important sites from various perspectives. For this purpose, many and different sites in the world need to be categorized in multiple aspects, e.g., location countries, description languages, nature or roles, application phases, application fields, methodologies, importance evaluation, etc.

We are going to complete the first edition of the World WTSP Catalogs in October 2019, after overcoming various difficulties. Success of this voluntary project can contribute to the global TRIZ community not only by the output Catalogs but also by the cooperation experiences.

J09 Mamoru Ohashi (Japan TRIZ Society)

Research on a General-Purpose Application Method of the "Evolution Trend"

- Understanding How to Use the "Evolution Trend" by the Development of Flea Market Applications -

**Business and Management TRIZ Research Subcommittee,
Japan TRIZ Society**

**Osamu Ikeda (NIKON CORPORATION),
Hisataka Izawa (Sony Corporation),
Mamoru Ohashi (Hitachi Metals, Ltd),
Fumiko Kikuchi (Pioneer Corporation),
Yasuo Moriya (FUJITSU ADVANCED TECHNOLOGIES, LTD.),
Ikuro Yoshizawa (JIYUGAOKA SANNO College)**

In this study group, we are working for the purpose of presenting spread and development

of TRIZ to the subject of business, management, and the management field aiming at researches for utilizing TRIZ, such as the application method and case study, and guidance construction.

In the 11th TRIZ Symposium (2015) since the analysis tools (Contradiction Matrix, Inventive Principles and Evolution Trend, Evolution Level, etc. of a management system) of the TRIZ style were about ready in past activities, we selected "the Business Model with a Sufficient Line" from all fields partly, and analyzed the success factor by the TRIZ style (reverse). And in the 12th TRIZ Symposium (2016), we specified the business model as the "LCC (Low Cost Carrier) Model", and explored the evolution system business model with the application of the framework of TRIZ style business model creation. In the 13th and 14th TRIZ Symposia, we focused on the specific tool and made the application method of the "Evolution Trend" of Darrell L. Mann proposal applicable to examination. We search for the future trends of specific business centering on an "Evolution Trend" this time, and show the specific method of a new function (Success Factor & Competition Factor) which should be fulfilled in the future.

1. We make it sublimate to the tool which can have a certain amount of flexibility from personal application as the application method of an "Evolution Trend."
2. In the 4th clause of contents explanation, we search for the future trends of specific business (flea market) centering on an "Evolution Trend", and perform the case study which builds a new business model.

J10 Kimihiko Hasegawa (Japan TRIZ Society)

Creation Example of the Service Robot's Evolution Tree

(Part 3)

- The Goods Mapping Result to an Evolution Tree, and Future Anticipation -

**Kimihiko Hasegawa, Toshimitsu Kataoka, Narumi Nagase, Shigeru Suzuki,
Hirotosugu Ishihara, Sadao Nishii, Takuya Fujii, Tsunamasa Shioya**

(Intellectual Property Creation Research Subcommittee, Japan TRIZ Society)

I will report the research findings of the last year (the 3rd year) of the measure of the three-year plan to create the "Evolution Tree" for the service robot (non-industrial robot) including communication robots.

I will introduce the result of having updated this time the service robot's evolution tree created in Part 2, and having mapped concrete goods. Moreover, based on the contents which can be read in the created evolution tree, I will report the image of the service robot expected to be marketed from now on. 237 sorts of robots specifically published at the "Service Robot Chaos Map 2018" currently opened to the homepage of "robotstart", I will introduce the result of having mapped the communication robot of them to the evolution tree by the homepage after that for the service robot published at the reports released by April 26, 2019.

J11 Katsuya Miyanishi (Panasonic System Networks R&D Lab. Co., Ltd.)

**The 370-Persons All Employee TRIZ
which Organizes vigorously by Bundling Human Nature
- Two Challenges to a large Workshop -**

Katsuya Miyanishi (Panasonic System Networks R&D Lab. Co., Ltd.)

For what purpose are you utilizing TRIZ? Business solution of the engineer who faced the design subject? Or strategic intellectual property development? And what is the member scale in connection with the argument .

Our company formed the domestic 3 area company (Sendai, Kanazawa, and Hamamatsu) into 1 company by merging operations at the time of the 20th anniversary of incorporation procedures in 2008, and had a new start. And it came to celebrate the 30th anniversary of incorporation in 2018.

We challenged new possibilities of TRIZ thinking twice in 2008 and 2018, which were the turning points, which were successful. It was "TRIZ not for the purpose of idea generation, but where all the employees mingle." Specifically, we planned and carried out a large workshop which aimed at the activation of organization and will concentration by the jabbering argument, where all the employees were mixed. This has the following feature.

- (1) The process (concentrating the wisdom of many by mixed jabbering) is the main purpose, rather than the result(idea).
- (2) All the 370 employees gather and carry out to all the persons concerned (compulsive participation as a formal event of establishment commemoration and the anniversary of a company).
Forming and competing for about ten persons' combined team who shuffled a place-of-business region and an occupational description / office organization, age, and skill.
(Also the member of back-office sections, such as personnel affairs and accounting, a new employee, a director and section chief, Sendai, Kanazawa, and Hamamatsu member)
- (3) Creation technique inexperienced persons are a large number (especially 2008).
- (4) Collecting into Japanese vellum to a group result in about 3 hours (advance explanation and creation technique lecture are also included)
- (5) Changed its theme setup and process a lot, raised difficulty in 2018, and it was a re-challenge.

I will describe the contents, the concrete measure process, and its meaning and effect of the large workshop covering twice this time.

J12 Koichi Akagi (MHPS)

Introduction of the TRIZ Technique to a Productive Process Change Framework

Koichi Akagi, Shoji Yoshida (MHPS)

In the introduction of 2018 White Paper on Manufacturing Infrastructure of the Ministry of Economy, Trade and Industry issue, as "the subject which our country craftsmanship industry faces, and a view", it is a key task. "Maintenance and improvement in strong on-site power (labor shortage about quality control" and "creation and maximization of added value", I digitize and systematize high quality data and personal knowledge, and the reconstruction as "on-site power" with new power etc. which I capitalize as an organization is lifted.

Moreover, towards the added value acquisition which is another big subject, in order to promote Connected Industries, the importance of application of system thinking is also discussed. On the other hand, our company Mitsubishi Hitachi Power Systems Incorporated Company (henceforth referred to as MHPS) is a company which manufactures the dynamo machine and power generation system which take the lead in the sales of Mitsubishi Heavy Industries, and the share of main large-sized gas turbine markets will be the 1st in the world in 2018. Various production technology is applied to the large-sized gas turbine, and it is manufacture of the form of B to B. At our company, in order to solve the subject of the craftsmanship mentioned by the Ministry of Economy, Trade and Industry, I have started several years before building the framework which carries out productive process innovation regularly as an organization by combining two or more management engineering (the main management engineering techniques). In this paper, I propose about the practical use purpose a practical use organization, a practical use place, and for practical use, and a practical use means at the practical use time at the time of taking in TRIZ technique into the measure. I report the result that the back verified it, and discuss a future subject.

J13 Shunsuke Suzuki (Keieigihou Corporation)

Fixing and Mastery of TRIZ

by a Creative Thinking Technique

"Unique Brain Lab[®]" Training

Shunsuke Suzuki (Keieigihou Corporation)

In TRIZ, I can find out two or more keys which I follow and stick to solution quickly to the problem and subject which were given. So to speak, although it is "a hint of solution", in order to find out a solution concretely taking advantage of the hint, I have started an engineer's practical skills and thinking power.

The Unique Brain Lab® is a training method for understanding all creation techniques deeply and coming carry out acquisition application. I have shown as "a gymnastics question of the head" for reconstructing the pattern of thinking of a creation technique of all ages and countries or the way-of-thinking technique, and putting on decomposition and each thinking technique at the technique of systematization and also thinking of several ten. When guiding TRIZ, one can understand more deeply each technique which I show on an unconscious level by using such "gymnastics of the head" together at TRIZ, and I can increase the talented people who can apply at the practice spot.

J14 Takahisa Kusuura (TechnoProducer Corporation)

To Carry out "Lower Part Deployment (Embodiment)" of How Tree of a Logic Tree

- Manipulation of "Technical Search which can be Used", "Effects",
"Equivalent Transformation Theory," ... -

**Takahisa Kusuura (TechnoProducer Corporation),
Hikaru Matsuki, Yasuaki Kajisha, Shunsuke Suzuki
(Keieigihou Corporation),
Yuji Mihara (Creativity Engineering Research Institute),
Yasunori Ohta (Midasu IP Partners)**

It is known that an idea will come out if "Upper Part Deployment (abstraction, dominant-conceptionizing, and going back to demand function)" -> "Horizontal Development" -> "Lower Part Deployment (embodiment, narrower-termizing)" is performed on the basis of the existing means.

This "Lower Part Deployment" -- as much as possible -- quick -- in order to leak and to carry out few -- "technical search which can be used", "Effects", and an "Equivalent Transformation Theory" -- we recommend you to make full use of.

J15 Takashi Shikata (USIT Study Group)

Improvement Examination

in the Practice Application of USIT - Part 2 -

- USIT Guide 2.0 -

**Yuji Mihara (Creative Technology Institute Co. Ltd.),
Tsuyoshi Todome,
Hideaki Kosha (USIT manufacturing technology support),
Takashi Shikata (KUBOTA Corporation)**

Although USIT had been utilized as the practice technique of TRIZ, there was a case where a big difference was born to a result by a practitioner's practical use experience. By the last report, we reported the procedure as a practice guide collectively to obtain the result more than fixed also to the person with little practical use experience.

If retouch correction of the new procedure is made when a procedure is scrutinized by carrying out practice application in subsequent study group activity using an exercise, since a person deficient in practice can also result now in idea creation more easily, will be reported.

J16 Kurosawa, Shinsuke (Japan TRIZ Society)

Achievements in the Education Fields of the TRIZ Community

- Education of a New Era Subcommittee 2019 Yearly Report -

**Takashi Shikata, Takayoshi Ohtsu, Toshimitsu Kataoka,
Tomohiko Katagiri, Yoshihisa Konishi, Shigeru Hisanaga, Yuji Mihara and
Kurosawa, Shinsuke
(Education of a New Era Research Subcommittee, Japan TRIZ Society)**

The Educational Subcommittee of a New Era started its activity in 2013, and has performed development of the contents supposing practical use of TRIZ in the study of a document and Japan's educational practice relevant to the education made in the TRIZ

community.

At the symposium of the subcommittee inauguration former or subsequent ones, we delivered reports relevant to the educational contents which we made main, and were examined or created at the subcommittee. Now, we wish to make into an activity report this year the achievements of the educational relation accumulated so far in the TRIZ community with introduction focusing on what was kind of things were learned in the Subcommittee.

From <relation to the education of Altshuller > which is specifically a father of TRIZ -- for the first time I would like to survey about the achievements of the educational side in the meaning of <teaching the view of a TRIZ style> as achievements in early stages of a TRIZ community, and various achievements continued still now with aim which eventually < reforms the educational method based on the view of TRIZ>.

J17 Sadao Nishii (JNC Corporation)

Comparison Verification of Evolution Tree Creation Techniques

- Read "Evolution" Trend, to Effective TRIZ -

Sadao Nishii (JNC Corporation)

In the Symposium last year, titled "Effective use of citation information and examination documents in patent examination - A technique to grasp "evolution" easily -", I proposed that I could create an evolution tree in simple just from the patent set which can be drawn from quoting, quotation and indirect quotation, and by using the applicant's counterargument to the notice-of-reasons-for-rejection document from a judge, "evolution" could be simply grasped with a high possibility at least rather than carrying out comparison examination of the official report of the application concerned and the cited reference.

While introducing this time the more concrete creation technique which obtains certainly the information with a difficult check of indirect quotation, about the information which can

be read in the time and effort and the evolution tree currently created of tree creation, I will introduce the result of having verified the accuracy of this technique, by comparing with other techniques, increasing a case object.

In addition, these contents also relate to the result in the subject of research of the Japan TRIZ Society - Intellectual Property Creation Research Subcommittee, which is tackling the subject that I create the "evolution tree" for a service robot.

J18 Toshimitsu Kataoka (PATBRAIN Co. ltd)

Excavation and Training of Inventors Supporting Innovation

- One of the Measures to spread TRIZ -

Toshimitsu Kataoka (PATBRAIN Co. ltd)

Behind the screen of an innovation success, not only an inventor who makes "0 to 1" but many people who tried hard in order to make "1 to 10", "1 to 100", and "1 to 1000" exist. However, without the existence of a key person who bears the "0 to 1," an innovation does not get realized. An early excavation and training of a key person who bears the "0 to 1" is required for the early realization of an innovation. I thought that it will be useful for the early excavation and training of a key person if the disposition and creative capability needed for a key person, who will be in connection with the process of "0 to 1" stage of an innovation where great difficulty is conquered and many labors and efforts are needed, become clear. So, with the cooperation of people who contributed to the innovation by producing many inventions suitable as innovations of Japan, I conducted disposition analysis on them and carried out comparison examination. Also, the relation between TRIZ spread and disposition was considered, I will report on these.

J19 Yoichi Hasegawa (MPUF)

**Curricular Material for Problem-solving Idea
Generation Using "Preventing a Pencil from Rolling"
as the Exercise (Proposal)**

Yoichi Hasegawa (MPUF)

TRIZ is the abbreviation for "Theory of Inventive Problem Solving" in Russian, and it is all about problem-solving method.

Although it is common sense in the TRIZ community that, for problem solving, there are, roughly divided, mainly two kinds of thinking modes, namely (1) Purpose Achievement (starting from Function-Attribute Analysis, and (2) Trouble Solving (starting from Cause-Effect Analysis), it is not widely recognized.

So, the writers aimed at explaining these two kinds of thinking modes using one easy example, which anybody would understand. I will introduce its contents.

J20 Narumi Nagase (SONY)

**Examination of
Patent Map Construction and Information Acquisition
of the Research and Development Theme**

A Proposal on How to Rationalize Mapping

Narumi Nagase (SONY)

When promoting a research and development theme, the intellectual property activity including evasion of patent infringement is indispensable, and I am tackling an engineer

combining with problem solving action of a theme, and preceding, and gaining and holding advantageous invention every day.

Also in own research and development and promotion support, I build the patent Map for every theme, and also have experience put to decision making of intellectual property strategy planning and management, and it is these days, I also utilize the thinking method of TRIZ, I offer the construction of the patent Map and the support of intellectual property strengthening activities suitable for promotion of the research and development theme to a set, and am tackling.

In recent years, the cycle of evolution of technology or change of value becomes short rapidly, the time distribution to the thinking work as which an engineer analyzes the information on a patent and invention is pressed increasingly, and the measure is needed.

In this announcement, I propose the new approach and system to mapping work of patent / invention information as construction of the patent Map suitable for intellectual property strengthening / invention creation strengthening under research and development. Using the function of the system which combines and is existing, I carry out partial construction of the system to aim at, and introduce the tried situation.

J21 Tsunamasa Shioya (Japan TRIZ Society)

TRIZ Application to a Non-Technical Problem

- From a Proposal Example in the Intellectual Property Analyst Workshop -

Tsunamasa Shioya

(Intellectual Property Creation Research Subcommittee, Japan TRIZ Society)

At the Intellectual Property Creation Research Subcommittee, we drew up a three-year plan which created the "Evolution Tree" for the service robot (non-industrial robot) including the communication robot, and have advanced the research. In this process, we devised a method of creating the evolution diagram from a publication-of-patent-applications group, and reported the concrete creation method and the possible use over a non-technical problem at the last Symposium.

In this report, we will carry out a focus to solving a non-technical problem by TRIZ, and

introduce an example with a view. We took up a common problem "It is difficult to make a measure permeate a business organization," which an "intellectual property analyst" who promoted intellectual property activity from a management viewpoint had, and created a solution by using TRIZ. Since popularity was acquired as a result of proposing this solution at an intellectual property analyst workshop, we consider that it to be effective.

Moreover, application of this technique is not limited to an intellectual property analyst's measure, and we also propose that there will be possible use in the deployment method of TRIZ in an organization, too.