# Research Project Supported by Grants-in-Aid (Kakenhi) 2017

# Grant-in-Aid for Scientific Research

1. Category: Scientific Research (C)

Research Representative: Jung-pil Shin

Title: Automonous generation of ink brush characters and hand-writing char-

acters with individuality and natural typographical fluctuation

2. Category: Scientific Research (C)

Research Representative: Toshiaki Miyazaki

Title: Research on ultra-low-power software defined sensor network with self-

reparing capability Amount:  $\text{\forall}$  780,000

3. Category: Scientific Research (C)

Research Representative: Yong Liu

Title: Evolutionary Approaches to Learning Self-awareness for a Decentral-

ized System

4. Category: Scientific Research (C)

Research Representative: Anh T. Pham

Title: Study and development of smart supermarket by using visible light

communication (VLC) and smartphone technologies

5. Category: Scientific Research (C)

Research Representative: Yodai Watanabe

Title: Research on optimality and existence of confidence variance method

6. Category: Scientific Research (C)

Research Representative: Alexander Vazhenin

Title: Service-oriented infrastructure for education of Tsunami modeling and

English

7. Category: Scientific Research (C)

Research Representative: Debopriyo Roy

Title: 3D Printing in Creative Factory Contexts for English Language Learn-

ing

Amount: \$ 910,000

8. Category: Scientific Research (C)

Research Representative: Hiroshi Saito

Title: Tamper resistance evaluation of asynchronous circuit by batch data

method using programmable delay element

Amount: \$ 910,000

9. Category: Scientific Research (C)

Research Representative: Konstantin Markov

Title: Speech based emotional and depressive mental state prediction using

Gaussian Process state-space models

10. Category: Scientific Research (C)

Research Representative: Incheon Paik

Title: Web service discovery and linkage on big data of linked service network

11. Category: Young Research (B)

Research Representative: Jeremy Perkins

Title: An Acoustic Typology of Creaky Voice

Amount:  $$\pm 390,000$ 

12. Category: Young Research (B)

Research Representative: Younghyon Heo

Title: Improving English speaking with parsing training

Amount: \$ 650,000

13. Category: Scientific Research (C)

Research Representative: Julian Villegas

Title: Saund: Simulation of auditory near-field distance

Amount: Y = 1,170,000

14. Category: Scientific Research (C)

Research Representative: Qiangfu Zhao

Title: Research on action pattern recognition based on small-scale human-

presence sensor network Amount:  $\frac{1}{2}$  910,000

15. Category: Scientific Research (C)

Research Representative: Shuxue Ding

Title: Research on real-time processing system of compression sensing and

sparse expression Amount:  $\mbox{\ensuremath{\upmu}{$\pm$}} 1,300,000$ 

16. Category: Scientific Research (C)

Research Representative: Hisako Yasuda

Title: Introduction of Japanese comics analysis for English education: An

application to academic writing of role word analysis

17. Category: Scientific Research (C)

Research Representative: Emiko Kaneko

Title: Development of picture prompt with difficulty level information and

its effect of characteristics for L2 deliverance

Amount: \$ 780,000

18. Category: Young Researcher (B)

Research Representative: Peng Li

Title: A machine learning based system for storing and processing big spatial-

temporal data

19. Category: Young Researcher (B)

Research Representative: Yutaka Watanobe

Title: An intelligent programming study support environment

Amount: ¥ 910,000

20. Category: Young Researcher (B) (period extension)

Research Representative: Ryuhei Yamada

Title: Development study of wide range seismometer aiming for network

deployment for extreme environment

Amount:  $\mathbf{Y}$  0

21. Category: Scientific Research (C)

Research Representative: Maxim V. Ryzii

Title: Computer modeling of cardiac conduction system with nonlinear os-

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m cillators}$ 

22. Category: Scientific Research (C)

Research Representative: Evgeny Pyshkin

Title: Advancing interfaces and algorithms used in traveler-centric information systems supporting geographical, cultural and historical perspectives

Amount: \$ 910,000

23. Category: Scientific Research (C)

Research Representative: Naru Hirata

Title: Spectral data analysis of Asteroid Itokawa based on high precision

shape model

24. Category: Young Researcher (B)

Research Representative: Yukihide Kohira

Title: Development of designing technology of integrated circuit which is

resistant to delay dispersion and aging degradation

# 25. Category: Young Researcher (B)

Research Representative: Sender Dovchin

Title: Integrating English language based Western social media in the EFL

classrooms in Japanese universities

# 26. Category: Young Researcher (B)

Research Representative: Jun Ogawa

Title: Evolved soft robotics for efficient development of irregular terrain

capable robots in disaster scene

#### 27. Category: Young Researcher (B)

Research Representative: Chunhua Su

Title: Method of authentication and privacy protection in IoT environment

#### 28. Category: Young Researcher (B)

Research Representative: Yosuke Kira

Title: Breakthrough of social dilemma research by etablishing large-scaled

online experiment method Amount:  $\mathbf{Y}$  1,170,000

# 29. Category: Scientific Research (B)

Research Representative: Shigeo Takahashi

Title: Research on dynamic configuration optimization for annotative visual

information display Amount: Y 7,110,000

## 30. Category: Publication of Scientific Research Results

Research Representative: Nobuyoshi Asai

Title: Hyper-Dictionary: Hyper English word origin dictionary

31. Category: JSPS Research Fellow

Research Representative: Huawei Huang

Title: Conjoint optimization of routing and protection in software defined

network

Amount: \$ 780,000

# Contribution from outside the University

1. Category: Scientific Research (A)

Research Representative: Hiroshi Saito

Title: Research on ultra-low-power consumption technology of high-speed

serial communication mechanism

Distribution: National Institute of Informatics Amount: \(\foats 500,000\)

2. Category: Scientific Research (C)

Research Representative: Emiko Kaneko

Title: Vocabulary and grammar coaching for improvement of English deliv-

erance profluence

Distribution: Kobe Gakuin University Amount: ¥ 60,000

3. Category: Scientific Research (S)

Research Representative: Maxim V. Ryzhii

Title: Creation of two-dimensional atomic lamina heterojunction and its

application for terahertz opto-electronics device application

Distribution: Tohoku University Amount: ¥ 700,000

4. Category: Scientific Research on Innovative Areas

Research Representative: Shigeo Takahashi

Title: Enhancing visualization foundation encouraging space modeling

Distribution: Keio University Amount:  $\pm 2,600,000$ 

5. Category: Scientific Research (C)

Research Representative: Takao Maeda

Title: Production method of novel series by multi-dimensionalization and

structuration and their mathematics and application Distribution: Niigata University Amount:  $\mbox{$\Upsilon$}$  100,000

6. Category: Scientific Research (C)

Research Representative: Yodai Watanabe

Title: Production method of novel series by multi-dimensionalization and

structuration and their mathematics and application Distribution: Niigata University Amount: ¥ 100,000

7. Category: Scientific Research (B)

Research Representative: Naohito Nakasato

Title: Co-design of accelerator and software for acclerating multiple-precision

integral calculation

Distribution: Hitotsubashi University Amount: ¥ 500,000

8. Category: Scientific Research (B)

Research Representative: Zhu Xin

Title: Multi-hierarchical analysis of role of TRPM family in development

mechanism of atrial fibrillation

Distribution: Fukuoka University Amount: ¥ 500,000

9. Category: Scientific Research (B)

Research Representative: Yosuke Kira

Title: Commons moving with citizen society — Mathematical sociology re-

search for enlivenment of hilly and mountainous areas

Distribution: Shibaura Institute of Technology Amount: \(\fomaga 45,000\)

10. Category: Scientific Research (A)

Research Representative: Emiko Kaneko

Title: CEFR-J (English skill achivement index) compliant CAN-DO coach-

ing task and prototype development and publication

Distribution: Tokyo University of Foreign Studies Amount: \(\frac{1}{2}\) 250,000

11. Category: Scientific Research (C)

Research Representative: Kenta Ofuji

Title: Investigation of linguistic feature of effective evacuation call sentence

on natural disaster — for more appeal on refuge psychology

Distribution: Gunma Prefectural Women's University Amount: ¥ 153,000

12. Category: Scientific Research (B)

Research Representative: Shigeyuki Aoki

Title: Fundamental research for development of interactive educational ma-

terial for discussion education

Distribution: Kyushu University Amount:  $\mbox{\em $\mathbb{Y}$}$  150,000