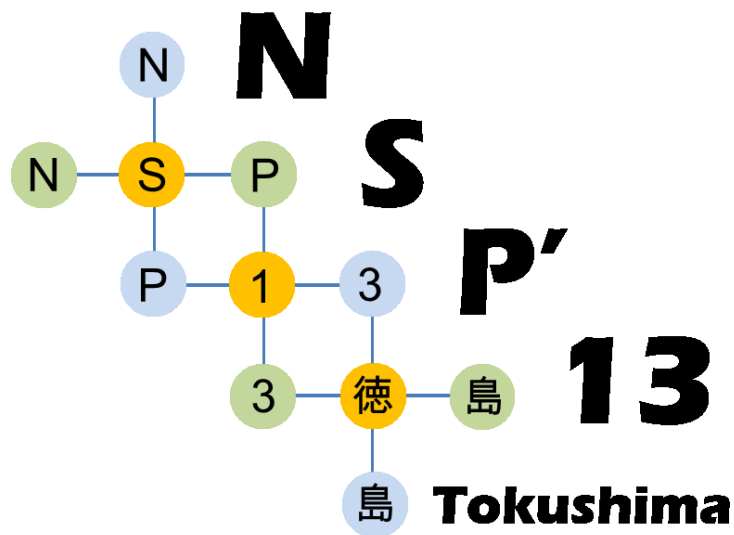


Proceedings of  
2013 IEEE Workshop  
on Nonlinear Signal Processing  
(NSP'13)



Community Plaza, Shikoku University, Tokushima, Japan  
November 30 - December 1, 2013

Organizer:  
IEEE Circuits and Systems Society, Shikoku Chapter

# Workshop Information

The 3rd IEEE Workshop on Nonlinear Signal Processing (NSP13) is held on November 30 - December 1, 2012, at Community Plaza, Shikoku University, Tokushima, Japan. The objective of this workshop is to provide a forum for exchange of the latest results related to nonlinear signal processing. Papers describing original works in all aspects of nonlinear signal processing are presented.

## Organizer

IEEE CAS Society, Shikoku Chapter

## In Cooperation with

Shikoku University  
Tokushima University

## Workshop Committee

- General Chair: Yoshifumi Nishio (Tokushima University)
- Technical Program Chair: Yasuteru Hosokawa (Shikoku University)
- Secretary: Yoko Uwate (Tokushima University)



## Advisory Member

- Mamoru Tanaka (Sophia University)



# Schedule

## November 30

Time	Events	Chair (Organization)
18:00-21:00	WELCOME RECEPTION	Yoshifumi Nishio (Tokushima University)

## December 1

Time	Events	Chair (Organization)
10:00-10:05	OPENING	Yoshifumi Nishio (Tokushima University)
10:05-11:25	Session: Nonlinear Signal Processing I	Yoko Uwate (Tokushima University)
11:40-13:00	Session: Nonlinear Signal Processing II	Mikio Hasegawa (Tokyo University of Science)
LUNCH		
14:30-17:00	EXCURSION	Yoshifumi Nishio (Tokushima University)

# Technical Program

## 1AM1: Nonlinear Signal Processing I

Date: December 1, 10:05-11:25

Room: Conference Room

Chair: Yoko Uwate (Tokushima University)

**1AM1-1 Multi-Layer Perceptron with Death of Neuron and Neurogenesis for Learning of Time Series** 1

Yuta Yokoyama (Tokushima University), Chihiro Ikuta (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

**1AM1-2 Numerical Derivations of Synchronization Ranges for Injection-Locked Class-E Oscillator** 2

Tomoharu Nagashima (Chiba University), Xiuqin Wei (Fukuoka University), Hisa-Aki Tanaka (The University of Electro-Communications), Hiroo Sekiya (Chiba University)

**1AM1-3 雑音誘起位相同期現象に基づく自然環境の揺らぎを用いた時間同期手法** 3

Hiroyuki Yasuda (Tokyo University of Science), Makoto Harashima (Tokyo University of Science), Yuki Honda (Tokyo University of Science), Ryuzo Kuwahara (Tokyo University of Science), Mikio Hasegawa (Tokyo University of Science)

**1AM1-4 カオスの特徴をもつ拡散符号を用いた DS/SS の耐ノイズ特性評価** 6

Yoshimasa Narumiya (Tokyo University of Science), Mikio Hasegawa (Tokyo University of Science)

## 1AM2: Nonlinear Signal Processing II

Date: December 1, 11:45-13:00

Room: Conference Room

Chair: Mikio Hasegawa (Tokyo University of Science)

**1AM2-1 An Opportunistic MAC Protocol Using Directional Antennas for Avoiding Frame-Collision and Deafness Problems in Ad-Hoc Networks** 9

Tetsuro Okazawa (Chiba University), Jing Ma (National Institute of Information and Communication Technology), Ryo Manzoku (Chiba University), Sho Motegi (Chiba University), Nobuyoshi Komuro (Chiba University), Hiroo Sekiya (Chiba University)

**1AM2-2 A Multi-Channel MAC Protocol Using the Channel Grouping in Wireless Ad-Hoc Networks** 13

Ryo Manzoku (Chiba University), Hiroo Sekiya (Chiba University), Nobuyoshi Komuro (Chiba University), Shiro Sakata (Chiba University)

**1AM2-3 Investigation of Cellular Neural Network with Dynamic Changing Template by the Brightness** 14

Kazushige Natsuno (Tokushima University), Yoko Uwate (Tokushima University), Yoshifumi Nishio (Tokushima University)

**1AM2-4 Throughput Analysis for String Topology Wireless Multi-Hop Networks Taking into Account Frame Drops**

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Kosuke Sanada (Chiba University), Hiroo Sekiya (Chiba University), Nobuyoshi Komuro (Chiba University), Shiro Sakata (Chiba University)

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