

# 研究、その他紹介

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Talk in Japanese  
Slides in English  
Slides available at

<https://goto920.github.io/Docs/20191106-talk.pdf>



# 1. Origin: Queueing Networks

- Doctoral dissertation: Studies on Queueing Problems in Traffic Flows, 1986
  - Chap. 2: Analysis on a Sattelite Channel with Two Types of Downlink Error
  - Chap. 3: Performance Evaluation for a FCFS-Like Group Random Access Protocol on Bus Networks
  - Chap. 4: An Approximate Analysis on Cotrolled Tandem Queues
  - Chap. 5: Performance of an Extra Lane for Slow Vehicles

## 2. Tools Learned in 1980s

- Applied Math (Queueing Theory)
  - 応用確率論、Laplace変換、数値計算
- Event driven Simulation Programming
  - Modeling、FORTRAN、Simulation Language

# 3. Past Non-academic Activities

- 1986--: Joho Kanri Gakka (Keiei)
  - 1.5 year at UC Irvine (Academic brother, got married Rita Coolidge, retired)
  - Unix(SunOS) Administration
  - Network Administration
- --1990--
  - Building J Network design, Campus LAN design
  - Tokai Internet Community, 100 schools supporter
  - JPNIC Steering Committee member
  - JUCE activities
- --2000-- Seto Campus network design, ISMS for [Can@Home](#)
- Current office room is the 6<sup>th</sup> room (N, J, Seto, Seto, S, Q)

# 4. Research Papers

<input type="checkbox"/>	TITLE			CITED BY	YEAR
<input type="checkbox"/>	Performance and QoS of Next Generation Networking: Proceedings of the International Conference on the Performance and QoS of Next Generation Networking, P&QNet2000, Nagoya ...			6	2012
	K Goto, T Hasegawa, H Takagi, Y Takahashi Springer Science & Business Media				
	師匠が瀬戸キャンパスで開催、procを編集した				
<input type="checkbox"/>	Proxy Servers: Case Study for Cache Hit Ratio and Response Time				2012
	K Goto, H Amano Performance and QoS of Next Generation Networking: Proceedings of the ...				
	自分の論文はこれ				
<input type="checkbox"/>	ネットワークエミュレータ GINE を用いたマルウェア解析環境の構築				2012
	光枝靖章, 後藤邦夫, 河野浩之 コンピュータセキュリティシンポジウム 2012 論文集 2012 (3), 114-121				
<input type="checkbox"/>	Network emulator with virtual host and packet diversion			2	2012
	K Goto Cyber Journals: Multidisciplinary Journals in Science and Technology ...				

Dual Core CPUの時代。以後、カーネル機能向上でGUIつきNISTNetに負ける

## 4. (cont.)

- Network emulation – route real packets
  - Packet diversion (横取り) with Linux/Free BSD kernel module addition
  - Low level socket API programming (AF\_NETLINK, AF\_PACKET on Linux)
  - Router/line delay, capacity emulation with system real time clock
  - Connection between virtual hosts (VirtualBox, Linux container etc.)
- Computer network security – intrusion detection, e-mail graylisting etc.
- All list:  
[https://scholar.google.com/citations?hl=en&user=nQrExGIAAAAJ&view\\_op=list\\_works&sortby=pubdate](https://scholar.google.com/citations?hl=en&user=nQrExGIAAAAJ&view_op=list_works&sortby=pubdate)

# 5. Papers in Education

- |                          |   |   |      |
|--------------------------|---|---|------|
| <input type="checkbox"/> | <b>Educational Application of the Internet: International Joint Teleclass</b> | 5 | 1995 |
|                          | K Aoki, K Goto<br>Proc. INET 95   |   |      |
|                          | COIL-like challenge with old tools  |   |      |
| <br>                     |   |   |      |
| <input type="checkbox"/> | <b>南山大学における情報通信基盤整備</b>   |   | 1995 |
|                          | 後藤邦夫<br>私情協ジャーナル 3 (4), 30-2  |   |      |
| <br>                     |   |   |      |
| <input type="checkbox"/> | <b>Summary of K12 activities in Japan</b>                                     | 5 | 1995 |
|                          | K Goto<br>Proc. INET'95   |   |      |
|                          | Dawn of school networking with Dr. Nakayama                                   |   |      |

- <http://www.isoc.org/inet95/proceedings/PAPER/021/html/paper.html>
- <http://www.isoc.org/inet95/proceedings/PAPER/172/html/paper.html>

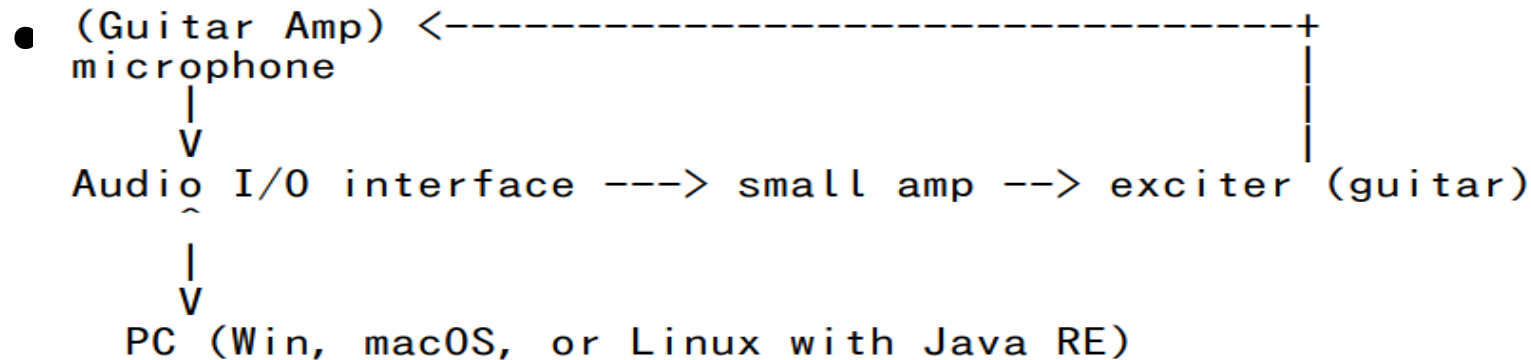
## 6. Current Interest

- Musical applications – not published yet
- Examples <https://goto920.github.io/>
  - Presentation Timer (practice, in JavaScript (React))
  - Metronome/Drum beats (for drummer, JavaScript)
  - FilteredPlayer.jar (for PC with Java Runtime)
    - Split stereo sound by percussive/harmonic, pan(L-R)
    - Suppress vocal at center, Suppress drum sounds etc.
  - (guitar) Feedback booster, Variable Speed/Pitch Music Player



## 5. (cont.) Feedback booster (Java)

- Fundamental pitch detection, eq, compression
  - Sound samples:  
<https://studio.youtube.com/video/bZyf2bIrEYM/edit>
- 



# 6. Work in progress

- Adding clicks to popular music source
  - Beat detection/estimation at quasi-realtime click
  - Commercial software cannot handle all songs (e.g. Rec'n'Share(iOS) for Yamaha EAD-10)
  - Beat detection of songs without percussion is harder
- FilteredPlayerApp implementation in JavaScript for smartphones
  - Java Runtime is not available on smartphones
  - Web Audio API, Fourier transform, array manipulation etc.
  - Simple GUI

# Appendix: 仕事以外

- LP album in 1980  
<https://www.youtube.com/playlist?list=PLa4FsPdQ51PF5086fESye8wQauTmhlXxj>
- Live performance in 1980  
<https://www.youtube.com/playlist?list=PLa4FsPdQ51PGSDgbJ83Fk-cSKsOwyFN6f>
- Best vocal performance in 2018  
<https://www.youtube.com/watch?v=89wtjR4Klug>
- (Work) Example video of my classes  
<https://www.youtube.com/playlist?list=PLa4FsPdQ51PF-Hbl1L2-YLYXDjIQDQQbA>