

“メディア表現特講1” 第2回

「インタラクティブなシステムのデザイン」

長嶋洋一(ASL)

以下はArs Electronicaでの
招待講演での「自己紹介」です

Yoichi Nagashima (JP)



File Edit Windows Action ÉwÉáÉv 09:46 Image/ine 1.3

Legend-05 preset 0 (0) no midi yet

VideoStatus: no video

Text: not loaded

Movie: not loaded

MovieSpeed: stopped.

MoviePos: 0:00:00

MovieStart: 0:00:00

MovieLoop: 0:00:00

Blend: Interlace: 0 TrstfMode: copy Interpolation: none

Keyer: ExtKeyMode: KeyTop: 100.00% KeyBot: 0.00%

Foreground: Buffer

Background: Buffer

DisplaceSrc: Buffer


Color 1: [Red]

Color 2: [Blue]

cFrame: ---

DiskFree: ---

preset 0, buffer



Frame1: 0

Frame2: 0

Frame3: 0

PanX: 0.000

PanY: 0.000

Scale: 1.00

Displace: 0.00

DispAngle: 0

DispOffset: 0

RotateGrey: Warp: 0

FeedBackScale: 1.000

HorFeedBackOffset: -0.00

VerFeedBackOffset: -0.00

Alpha: -

AlphaInvert:

MirrVideo:

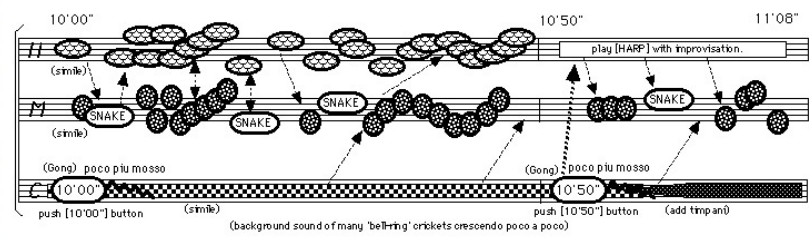
MirrMovie:

MirrBuffer:

MirrFrame1:

MirrFrame2:

MirrFrame3:

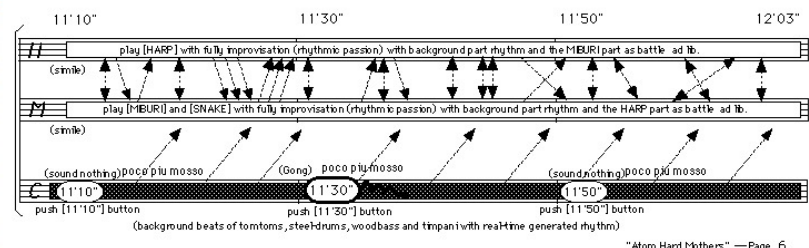
10'00" 10'50" 11'08"

(smile)

play [HARP] with improvisation.

(Gong) poco piu mosso

push [10'00"] button (smile) (background sound of many 'bell'ing' crickets crescendo poco a poco) push [10'50"] button (add trmp an)



11'10" 11'30" 11'50" 12'03"

play [HARP] with fully improvisation (rhythmic passion) with background part rhythm and the MIBURI part as battle ad lib.

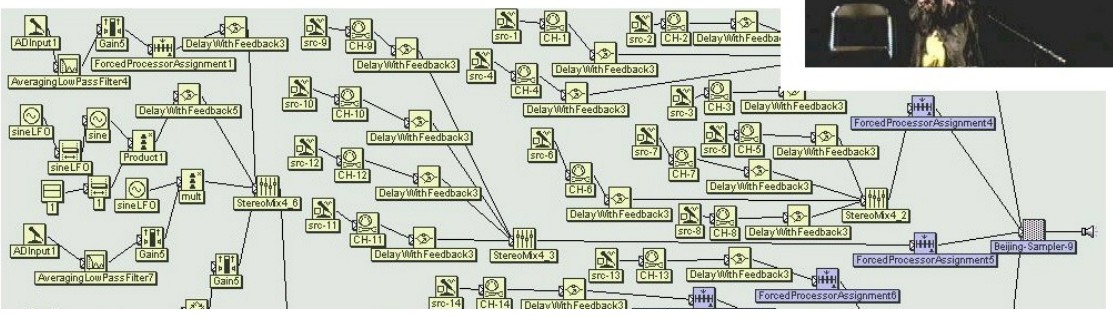
play [MIBURI] and [SNAKE] with fully improvisation (rhythmic passion) with background part rhythm and the HARP part as battle ad lib.

(smile)

(Gong) poco piu mosso

push [11'10"] button (background beats of tomtoms, steel drums, woodbass and trmpian with real time generated rhythm) push [11'30"] button push [11'50"] button

"Atom Hard Mothers" — Page 6



2004年11月1日 (月曜日) 小 4

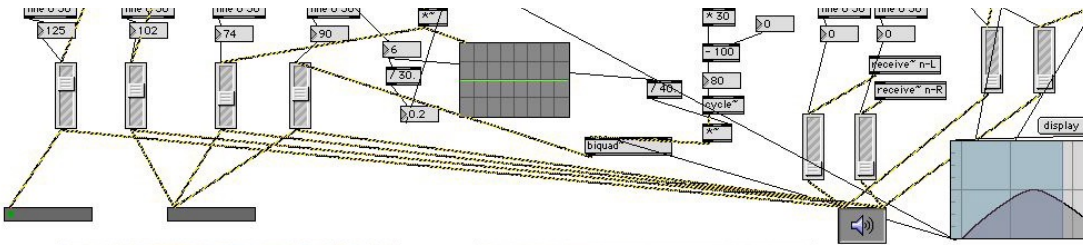
新しい楽器を作る

コンピュータを使った楽器を紹介するよ! 発想がとてもユニークなの

今日の先生 常盤拓司 日本科学未来館 静岡文化芸術大学の長崎洋一先生は、コンピュータ・エレクトロニクス (電子コンピューター) と音楽の二つの領域にまたがって研究している、とてもめずらしい方です。コンピュータ・エレクトロニクスを応用し、新しい楽器を研究しています。これまでに「関節の曲げ具合や筋肉の緊張具合を音に換える楽器」「鼓を目に見えないレーザービームに置き換えたハープ型の楽器」などを発明しているんですよ。

おもしろ研究編 -2-

つぐく 曲の けの 間 換 じか ンセ せん 音を 鳴これ



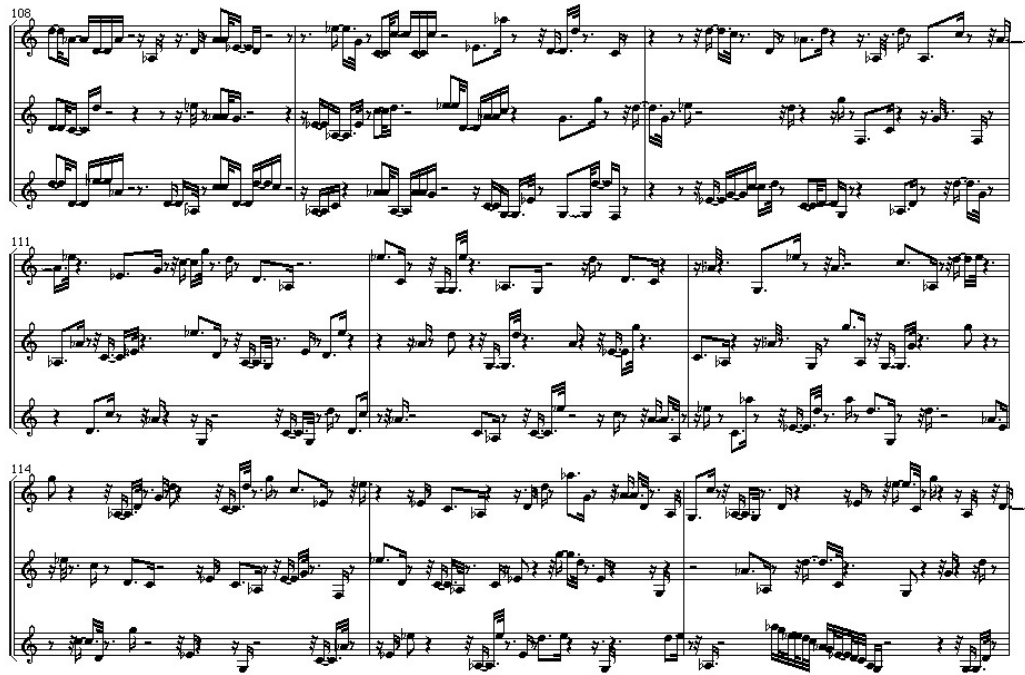
nagasm.org



「人間の動作によつて、楽器を演奏する」といえます。音を作り出すことが「楽しい」「悲しい」だけでなく、などの感情や意図などを文字や言葉に置き換えて、伝えたい事、えすに伝達することができる道具だといえるでしょう。

近年、このような観点から新しい音楽を研究開発することに注目が高まりつつあります。2001年から、毎年、NIME(New Interfaces for Musical Expression)という国際会議が開催されています。この国際会議の正式名称を日本語にすると「音楽表現のための新しいインターフェイス」となります。将来、長崎先生をはじめとするさまざまな研究者の方々の取り組みから、私たちがまた見たことのない音楽や、それによる新しい音楽表現が登場することでしょう。

日本科学未来館では「インターフェイス」を使った展示を行っています。ペンで描いた線が動画になる「共画」やいろいろなインターフェイスの特徴を比較できる「インターフェイスのいろいろ」などがあります。



Yoichi Nagashima (JP)



Yoichi Nagashima (JP)





Musical score for piano, measures 191-195. The score is written in black ink on a white background. It consists of three systems of music, each with a treble and bass staff. The first system starts at measure 191, the second at 193, and the third at 195. The music is in a key with one sharp (F#) and one flat (Bb), and a 4/4 time signature. The notation includes various note values, rests, and dynamic markings.



140

Musical score for measures 140-141. The score is written for a grand staff (treble and bass clefs). The melody in the treble clef consists of a series of eighth notes with various accidentals (sharps, naturals, flats). The bass clef part is mostly rests with some low notes.

142

Musical score for measures 142-143. The score is written for a grand staff. The treble clef part continues with eighth notes and some chords. The bass clef part has some notes and rests.

144

Musical score for measures 144-145. The score is written for a grand staff. The treble clef part continues with eighth notes and some chords. The bass clef part has some notes and rests.

108

111

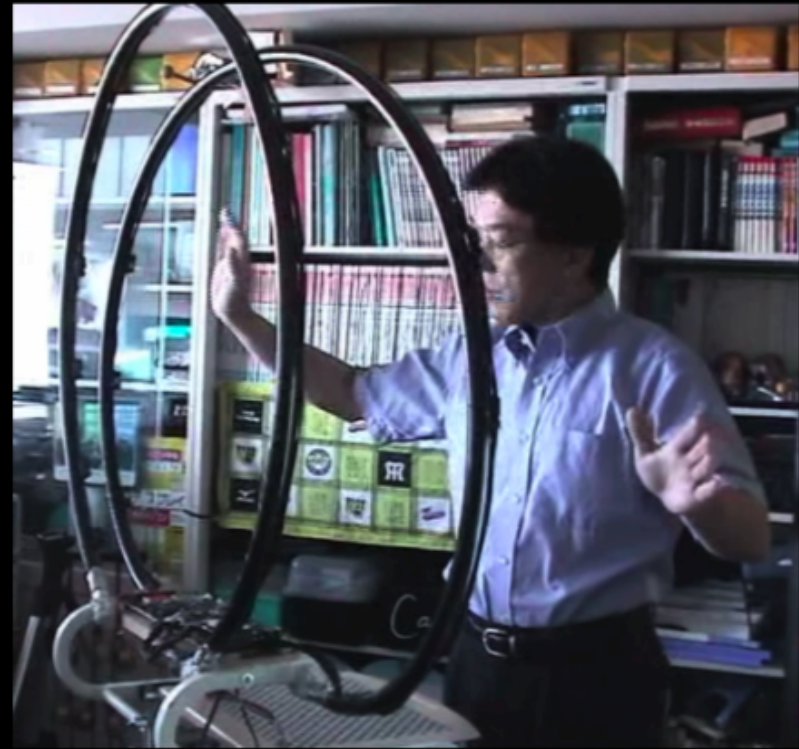
114

This image shows a musical score for three staves, covering measures 108 to 114. The notation is complex, featuring many sixteenth and thirty-second notes, often beamed together in groups. The key signature has one sharp (F#), and the time signature is 4/4. The score is written in treble clef. The first system (measures 108-110) shows a dense texture with many sixteenth notes. The second system (measures 111-113) continues this texture with some longer notes interspersed. The third system (measures 114) concludes the passage with a final cadence.

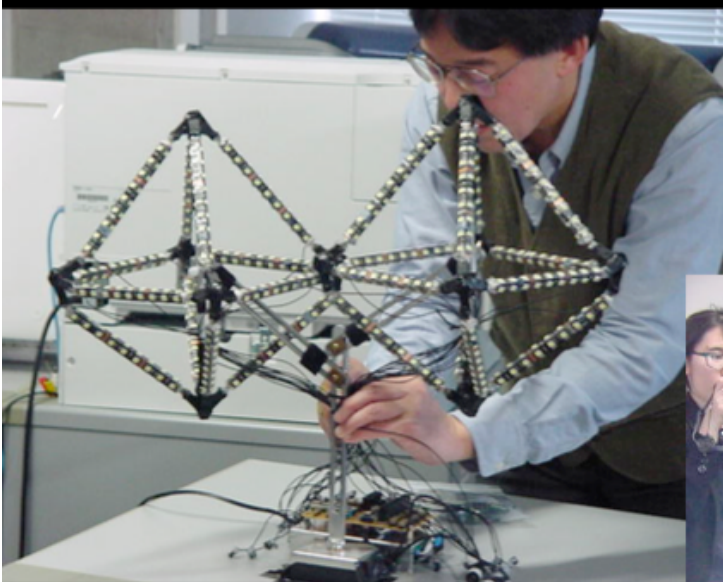


Yoichi Nagashima (JP)





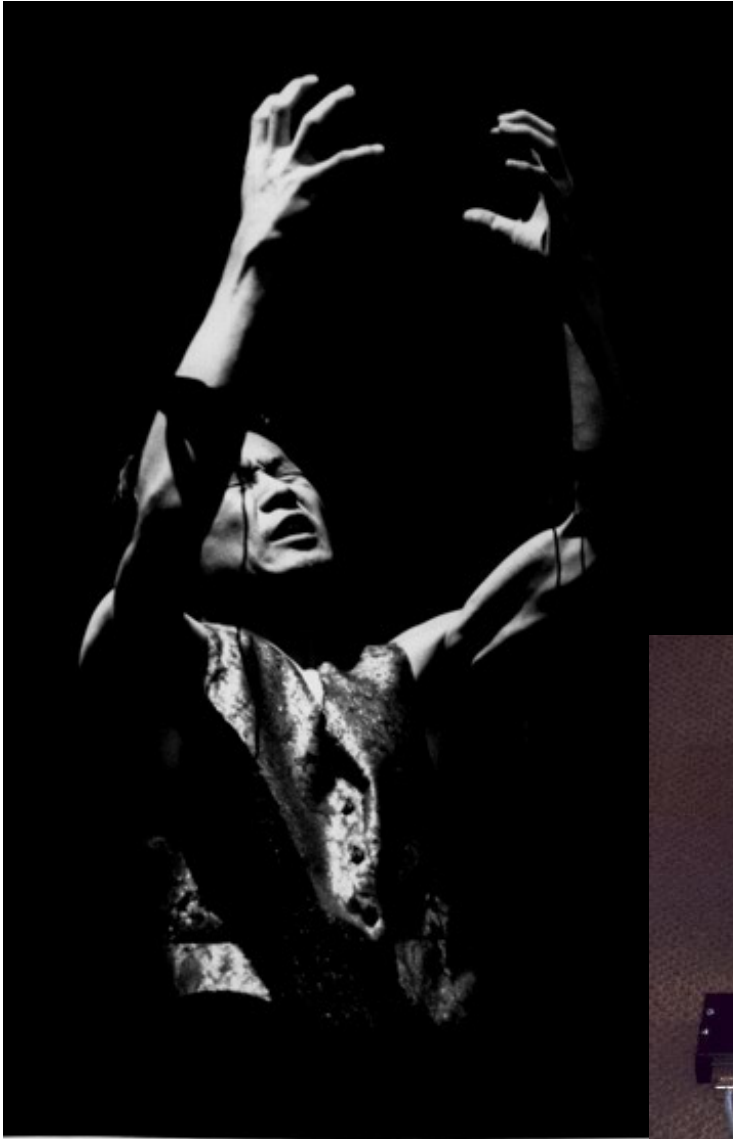




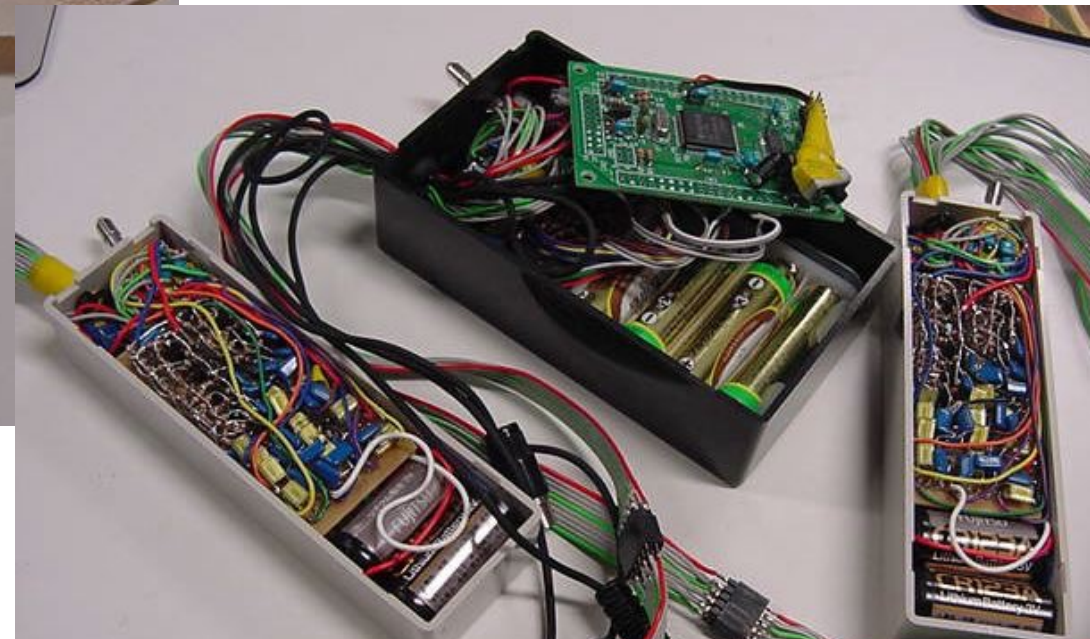
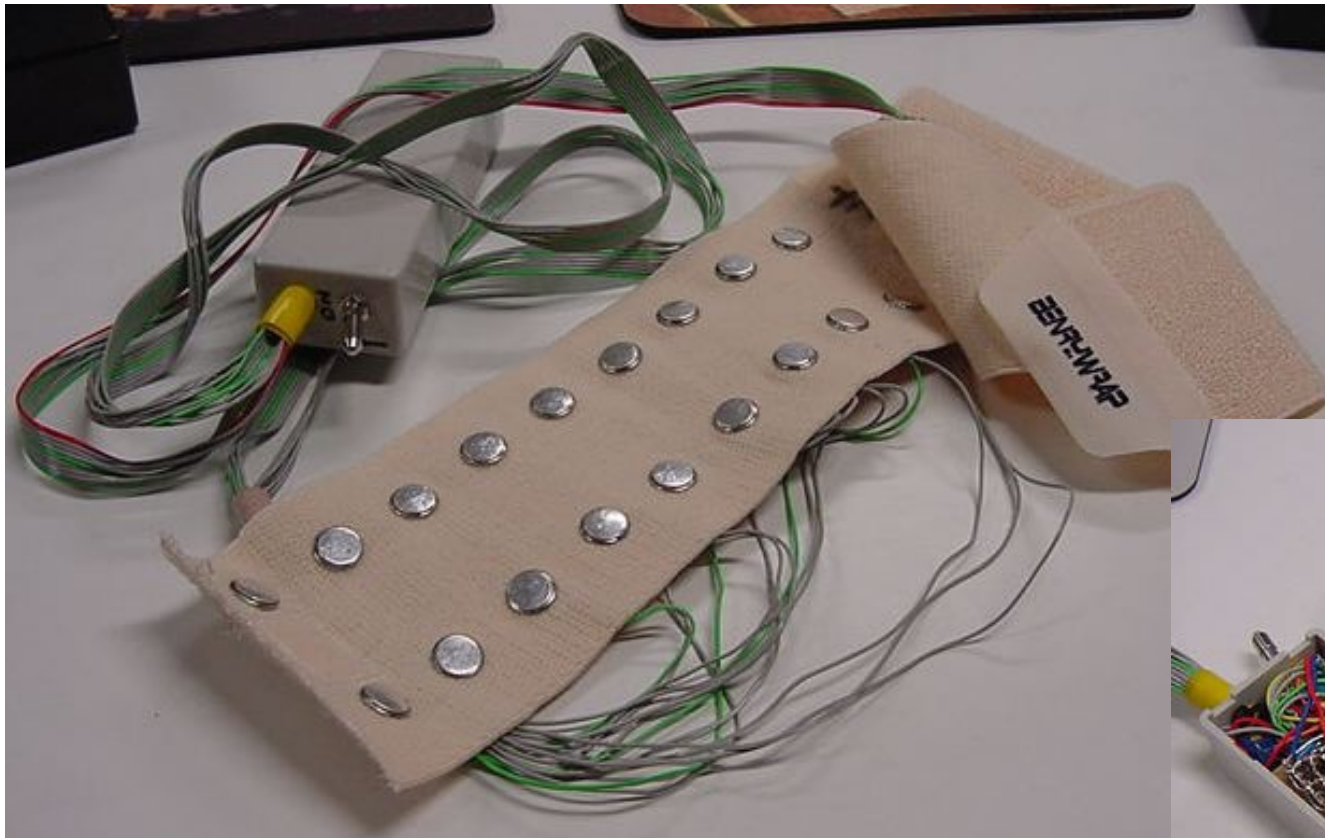


筋電楽器

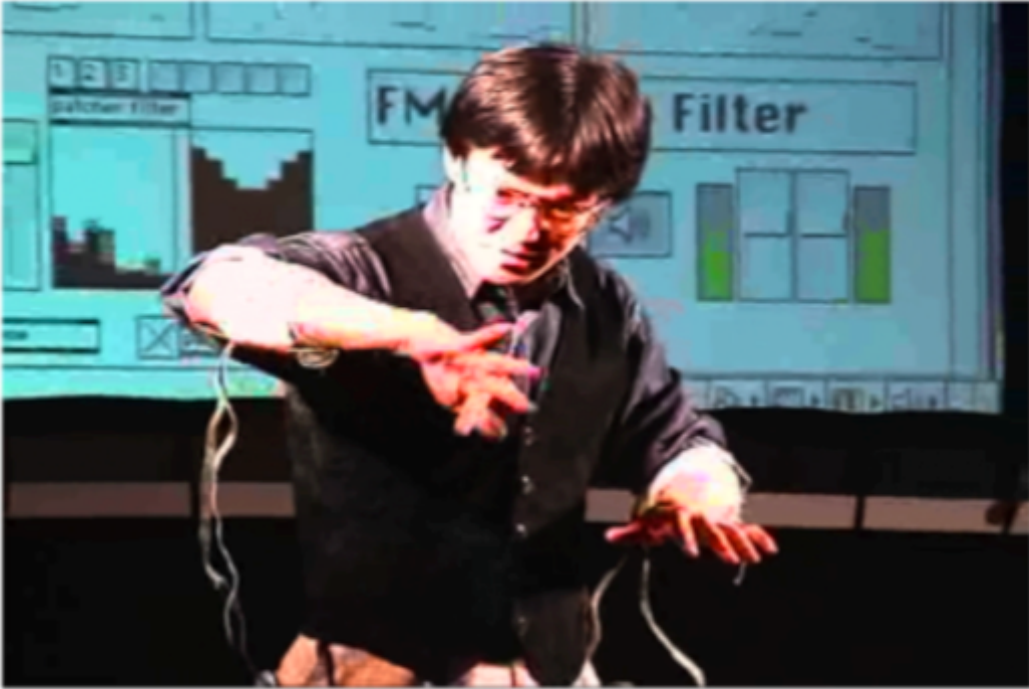
BioMuse (Atau Tanaka)



MiniBioMuse-III (1999)



Kassel, Germany 2001



Montreal, Canada 2003



Amsterdam, Netherlands 2004



Paris, France 2004



Vancouver, Canada 2005



Taipei, Taiwan 2007



Yekaterinburg, Russia 2010



Oslo, Norway 2011



The image displays a Mac OS desktop environment with several open windows related to a Pure Data patch for MuseIO communication.

Terminal Window (nagasm - Muse_set_60Hz.txt):

```

Muse Bootloader: 7.2.5
Build No: 56
BT Mac Address: 006667030CB
BT Firmware: Ver 5.45 IAP 10
Serial: 1180-72BW-30CB
Preset: 14
Filters Enabled: true
  - Notch Frequency: 60Hz
Accelerometer Enabled: true
EEG Sample Frequency: 3520Hz
EEG Output Frequency: 220Hz
EEG Samples Bitwidth: 10
EEG Channel Count: 4
EEG Channel Layout: TP9 FP1 FP2 TP10
Downsampling: 16
Output Mode: SEROUT_COMPRESS
=====
JSC error 61: No osc.tcp://[host]:[port] end-point to connect
TCP connection failure. Please start a listening process.
bits/second: 7746 receiving at: 220.00Hz dro
Battery: [==] + 14% voltage: 3.61mV
Noise: [ 0.8% 60.7% 0.8% 0.8% ]
  
```

Pure Data Patch (MuseIO_UDP_03):

The patch processes incoming UDP data from port 7788. It uses a `route /muse/acc` object to route accelerometer data and a `route /muse/eeeg` object to route EEG data. Both are followed by `unpack ffff` objects. The EEG data is then processed by a series of `p.connv32` objects (with various scale and offset parameters) and `p.move_mean` objects to filter the signal.

Terminal Window (OpenBCL_04):

```

udpreceiver + binding to port 7780
udpreceiver + binding to port 7778
udpreceiver + binding to port 7788
serial + bsd_path: /dev/cu.Muse-30CB-RN-IAP
serial + port a: Bluetooth-Incoming-Port
serial + port b: Muse-30CB-RN-IAP
serial + port c: usbmodem1
serial + port d: usbserial-DQ007TPD
  
```

File Browser Window:

File Name	Size	Date Modified
1.maxpat	182 KB	2017/10/13
2.maxpat	123 KB	2017/10/13
3.maxpat	107 KB	2017/10/12
4.maxpat	198.5 MB	2017/10/10
5.maxpat	43 KB	2017/04/25
6.maxpat	33.7 MB	2017/01/30
7.maxpat	99 KB	2017/01/30
8.maxpat	555.1 MB	2017/01/30
9.maxpat	6 KB	2017/10/10
10.maxpat	555.1 MB	2017/01/13
11.maxpat	371 KB	2016/06/15
12.maxpat	88 KB	2015/10/26



