

# BASS HOLOGRAMS

Floy Krouchi



 **c é s a r é**  
CENTRE NATIONAL DE CRÉATION MUSICALE



# BASS HOLOGRAMS

## ELECTRONIC HYBRID BASS SOUND PERFORMANCE

Inspired by indian music and its most ancient instrument, the Rudra Veena, Floy Krouchi has developed an augmented bass which uses electronics and realtime transformation.

Within the bare bones of bass frequencies, within the torpor of oscillations, a relationship to silence unfolds, one which takes us to the very edge of sound, “inside time”, into the swirls of an “electronic raga”.

The Bass Holograms series includes different projects, Bass Holograms solo, Bass Holograms Extended, and a research project named Bass Holograms Interactive.

# BASS HOLOGRAMS

## SOLO

Electronic Bass Solo

Rhythm, mass, fabric - from noise based pulsation to amplified silence  
- each solo is a unique piece, recorded at a precise moment in time,  
numbered and dated like a painting or an artefact

# BASS HOLOGRAMS

## EXTENDED

Electronic bass solo for 8 loud-speakers  
with Vivien Trelcat : sound spatialisation

The extended version of Bass Holograms stretches the instrument out to  
an octophony, using spatialisation achieved through digital lutherie, inter-  
preted live by Vivien Trelcat. The bass becomes an instrument played by  
four hands and 8 speakers.

# BASS HOLOGRAMS

## INTERACTIVE

Bass Holograms Interactive offers research into the hybridization of an  
electric musical instrument traditionally attributed to rock and pop music –  
the fretless bass.

The Hybrid Bass incorporates elements of the Rudra Veena, one of the  
most ancient instruments of classic musical tradition, the ancestor of  
the bass (same tuning, same number of strings) with the addition of the  
“chikaree”, the buzz, three resonant strings ushering in tonality - a drone.  
Bass Holograms is the fruit of research carried out by Floy Krouchi in India  
into the art of ragas and microtones in Hindustani music in collaboration  
with Pandit Hindraj Divekar, a master of the Rudra Veena. Through this  
instrument, Floy Krouchi was brought face to face with the depth and scope  
of bass frequencies deployed over long periods of time and with the way in  
which the ear independently recreated the frequencies which were induced  
by, yet absent from, the acoustic space itself. This is how the idea of bass  
holograms and that of “electronic ragas” saw the light.



# TRANSFORMATION IN ELECTRONIC LUTHERIE

Floy Krouchi's bass is transformed in real time using an MaxMSP patch developed with Vivien Trelcat. This patch notably includes FM synthesis, analog modelling synthesis, resynthesis using iana~, series of complex modulations using ring modulation as a base, loops and temporal effects (delay with transposition and feedback as well as reverberation). The idea behind these sonic holograms stems from the potentiality, using a simple bass signal which is relatively basic as far as harmonics are concerned, of granting the listener access to sonic deployment across the whole spectrum, a deployment generated exclusively by the instrument itself. It is basically a way of making the inaudible audible.

## LUTHERIE / HARDWARE

The research carried out by Floy Krouchi alongside Samuel Allain and Vivien Trelcat includes work on the lutherie of the instrument as well as its ergonomics. She was also interested in the physical transformations wrought by the use of electronics whilst playing the instrument. At its core, this involved designing and building a new instrument integrating as many control devices as possible but also imagining physical control mechanisms connected to gesture and the movements of an instrument based performance.

## SPATIALISATION

By broadening the concept of Bass Holograms Extended, the instrument can be augmented by as many as 8 separate loudspeakers. The sonic hologram grows and is complexified by spatialisation. It is unusual to consider the loudspeaker an integral part of the instrument, yet by tuning each loudspeaker, and coupling this element with a filter system, Bass Holograms Interactive utilizes loudspeakers and parameters of space as if they were a component of the actual instrument, of the composition and of sound projection.

Depending on the location and type of space, Bass Holograms Interactive can create a stereo, quadrophonic or octophonic environment for sound projection.

# AN INTERACTIVE LOUDSPEAKER

With its interactive loudspeakers, Bass Holograms Interactive gives us the opportunity to branch out into new channels for research into writing, sound and composition.

For this performance, Floy Krouchi aims to experiment with audience participation thanks to the interactive loud speaker. It has a role to play in the very writing of the piece during the performance.

This intelligent loudspeaker reacts through dynamic filtering. The sound emitted becomes the raw material for an ephemeral "sculpture", controlled by remote infra-red sensors, by supplementary loudspeakers or by a Kinect (Xbox360 camera). Research is currently being undertaken in this field.

The sensors analyze distance, movement and the presence of spectators moving around within the space. They control random filters, thus simulating different acoustic spaces in a spectral fashion.

On the other side of the emitted signal, the body of the spectator becomes an element of the sonic modulation. It participates in a score which is being written, in real time, following a series of random interactions applied to the signal. This obviously influences the artist who is performing and the form of the piece - a game is set up between the emitter and the receptor, renewing the idea and perception of a concert or a musical performance.

Bass Holograms Interactive thus becomes a unique piece. Borne from silence, the entry and presence of bodies in the performance area reveals and sculpts the sound created by the musician.

# Floy Krouchi

## Composer, bass player, interpreter and performer

Floy Krouchi aka Drfloy has been present in the world of experimental music since 1994.

She began her voyage across electronic and electroacoustic waters as a founding member of the group Mafucage (Dub/Indus/Positive noise) where she played the bass. Mafucage toured France and Europe, going all the way to China. She works with tape recording devices, drum machines and samplers and has attended G. Favotti's electroacoustic course at the conservatoire.

In 2003, she took her instrument to India to study ragas alongside Pandit Hindraj Divekar and created Sakhiri a multimedia piece exploring gender identity with the participation of the Hijra community. This piece was played across the Indian subcontinent. She was able to continue this work thanks to a residence at Villa Medici Hors les murs.

In 2009, the album *A Stream of Love* with Indian songstress Sumathi was released. Since 2010, she has been creating Hörspiel radiophonic pieces for la Muse en Circuit and l'Atelier de Création Radiophonique de France Culture: *Hijras diaries* and *Couvre-feux* were awarded The Prix Italia in 2011, the prix international d'Art radiophonique Luc Ferrari in 2010 and the Phonurgia Nova prize in 2013.

Floy Krouchi composes musical pieces and sonic performances for various media - concerts, exhibitions, web-art, experimental video, cinema, dance, installations - and has also collaborated regularly with various artists and trans-disciplinary collectives in Europe and India. In 2012, she took part in Documenta 13, in Kassel.

In 2014, she recorded an album, *Below Sea Level*, at the Piety Street studio in New Orleans with Mark Bingham, and took part in the New Delhi Biennial. Her pieces – whether solos or collaborations – have been presented in France (Palais de Tokyo, Nuit Blanche, GRM, Présences Electroniques, Elektricite ) and abroad Spain, Germany, Italy, Belgium, UK, Poland, Czech Republic, USA, China, sultanate of Oman, India).



# Vivien Trelcat

## programmer

With an instant and close relationship to the musical machines of the 80s and 90s as well as guitars, Vivien devoted his childhood to the empiric exploration of electric and electronic sounds. He studied music and electroacoustic composition at the Musicology department of the faculty of Reims with Jean-Luc Hervé and Jean-Marc Chouvel, then at the Césaré creative workshop with Christian Sebillé before completing his training at IRCAM. In his electroacoustic compositions, Vivien opens himself up to accident, artefact and chance, whilst maintaining a direct connection with gestures and the body. Rumors, reflections and effects of transparency combine to form a sonic tableau, in pieces influenced by repetitive, improvised or extra-European music.

A multi-faceted artist, he has also created a pop group, John Grape, and he is the vocalist, instrument player and composer of this band. John Grape won an award at the FAIR 2012 and was part of the new bands showcased at the Printemps de Bourges in 2011. He also teaches Sound Design at the École Supérieure d'Art et Design of Reims. Musical assistant at the helm of the Césaré team from 2003 to 2010, he has principally worked alongside Christian Sebillé, especially on a suite of mixed pieces entitled *Villes imaginées* and on various improvised music projects and with several composers including Jean Christophe Feldhandler, Patrick Marcland, Jean Luc Hervé, Arnaud Petit, Patricia Dallio, Patrick Defossez.



# DIFFUSION

## FRANCE / EUROPE :

Festival Elektricite (Reims), Multiphonies GRM (Paris), Le Phénix (Valenciennes), Lieu Multiple (Poitiers), Festival Nuit d'Hiver (Marseille), Festival LEM (Barcelone), Festival Résonances Électriques (Metz et Strasbourg), Festival Bruits Blancs (Alfortville), Biennale Le Mans Sonore (Le Mans), Fondation Camargo (Marseille). Festival LEM (Barcelone), Matadero (Madrid), Hangar (Barcelona), Festival Signal (Cagliari), Kaf Collective (Granada, Espagne), Festival Spazio Musicale (Italie).

## US :

Support by FACE Foundation : Spectrum (NYC), Tigermen Den (New Orleans), Panoply Lab (Brooklyn) Firehouse Space (Brooklyn).

## NORTH AFRICA :

Festival Arabe des Musiques Engagées (Tunis)

## INDIA :

Goa, festival Serendipity, Pune, Mumbai.

## MENTIONS / CREDITS

The Bass Holograms series is a Césaré coproduction. In 2014, commissioned by the GRM and entitled "Bass Holograms #105" order. Presented at: Elektricite festival (Reims).

FKB, augmented bass with intergrated technology, designed by Floy Krouchi, developed by Maxime Lance - Césaré CNCM/Reims (hardware and electronics) and Vivien Trelcat (software).

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Floy Krouchi not being accompanied by a sound and light technician, we  
thank you to provide a technician home.

## LINKS

cesare-cncm.com  
floykrouchi.org

Bass Holograms on the program Tapage Nocturne  
(France Musique)