Granular Bibliography
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## \*\*NOTE\*\*

This bibliography is an attempt to gather a complete list of writings on the subject that may be helpful to anyone who is undertaking research in the area of granular synthesis. If you find a source that is not listed below and would like to see it included, please contact me and I will gladly include it in further updates.

Some of the references below may not deal directly or entirely with granular synthesis, but each does contain information that is useful to someone studying the subject. This distinction between the articles should be obvious from their titles. Not all are readily available (such as some conference papers), but in the interest of being complete are included here.

## \*\*REFERENCES\*\*

- Arfib, Daniel. 1991. "Analysis, transformation, and resynthesis of musical sounds with the help of a time-frequency representation." In G. DePoli, A. Picciali, & C. Roads, eds. *The Representation of Musical Signals*. Cambridge, Massachusetts: MIT Press, pp. 87-118.
- Arfib, Daniel and Delprat, Nathalie. 1993. "Musical transformations using the modifications of time-frequency images." *Computer Music Journal* 17 (2): 66-72.
- Barcy, A., A. Grossman and J. Zak. 1975. "Proof of the completeness of lattice states in the kq-representation." *Physical Review*, B12, 1118.
- Bastiaans, M.J. 1980. "Gabor's expansion of a signal into Gaussian elementary signals." *Proceedings of the IEEE*, 68: 538-539.
- Behles, G., S. Starke and A. Röbel. 1998. "Quasi-Synchronous and Pitch-Synchronous Granular Sound Processing with Stampede II." *Computer Music Journal* 22 (2): 44-51.
- Cavaliere, Sergio and Piccialli, Aldo. 1997. "Granular synthesis of musical signals." In C. Roads, S. T. Pope, G. DePoli and A. Piccialli, eds. *Musical Signal Processing*. Lisse, the Netherlands: Swets & Zeitlinger, pp. 155-186.
- DePoli, Giovanni and Piccialli, Aldo. 1991. "Pitch-Synchronous Granular Synthesis." In G. DePoli, A. Piccialli, and C. Roads, eds. *Representations of Musical Signals*. Cambridge, Massachusetts: MIT Press, pp. 187-219.
- DiScopio, Agostino. 1990. "Composing with Granular Synthesis of Sound in the Interactive Computer Music System." In Proceedings of the Fourth Biennial Arts & Technology Symposium. New London: Center for Arts & Technology at Connecticut College.

- Eckel, G., M. Rocha-Iturbide and B. Becker. 1995. "The development of GiST, a Granular Synthesis Toolkit Based on an Extension of the FOF Generator." In R. Bidlack, ed. *Proceedings of the 1995 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 296-302.
- Gabor, Dennis. 1946. "Theory of Communication." *Journal of the Institute of Electrical Engineers* Part III, 93: 429-457.
- Gabor, Dennis. 1947. "Acoustical Quanta and the Theory of Hearing." *Nature* 159 (4044): 591-594.
- Hammon, Michael. 1991. "Mapping Complex Systems Using Granular Synthesis." In B. Alphonce and B. Pennycook, eds. *Proceedings of the 1991 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 475-478.
- Harris, F. 1978. "On the use of windows for harmonic analysis with discrete Fourier transform." *Proceedings of the IEEE.* 66 (1): 51-83.
- Helmuth, Mara. 1991. "Patchmix and StochGran: Two Graphical Interfaces." In B. Alphonce and B. Pennycook, eds. *Proceedings of the 1991 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 563-566.
- Helmuth, Mara. 1993. "Granular Synthesis with Cmix and MAX." In S. Ohteru, ed. *Proceedings of the 1993 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 459-452.
- Helmuth, Mara and Ibrahim, Aladin. 1995. "The Fcurve Sound Generator with Granular Synthesis." In R. Bidlack, ed. *Proceedings of the 1995 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 63-64.
- Itagaki, T., P.D. Manning and A. Purvis. 1995. "An Implementation of Real-Time Granular Synthesis on a Multi-processor Network." In R. Bidlack, ed. *Proceedings of the 1995 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 493-494.
- Jones, Douglas L. and Parks, Thomas W. 1987. "On Computing Equally Spaced Samples of a Complex Gaussian Function." *IEEE Transactions on Acoustics, Speech, and Signal Processing* ASSP-35 (10); 1479-1480.
- Jones, Douglas L. and Parks, Thomas W. 1988. "Generation and Combination of Grains of Sound." *Computer Music Journal* 12 (2): 27-33.
- Kaiser, J. F. 1987. "On the Fast Generation of Equally Spaced Values of the Gaussian Function A exp (-at\*t)." IEEE Transactions on Acoustics, Speech, and Signal Processing ASSP-35 (10); 1480-1481.

Lee, Allan S. C. 1995. "CSOUND Granular Synthesis Unit Generator." In R. Bidlack, ed. *Proceedings of the 1995 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 230-231.

- Lent, K. 1989. "An efficient method for pitch shifting digitally sampled sounds." Computer Music Journal 13 (4): 65-71.
- Lippe, Cort. 1993. "A Musical Application of Real-Time Granular Sampling Using the IRCAM Signal Processing Workstation." In S. Ohteru, ed. *Proceedings of the 1993 International Computer Music Conference*. San Francisco: International Computer Music Association.
- Lippe, Cort. 1994. "Real-Time Granular Sampling Using the IRCAM Signal Processing Workstation." *Contemporary Music Review*, Vol. 10, United Kingdom, Harwood Academic Publishers, pp. 149-155.
- MacKay, John. 1984. "On the Perception of Density and Stratification in Granular Sonic Textures: An Exploratory Study." *Interface* 13: 171-186.
- Moles, A. 1968. *Information Theory and Esthetic Perception*. Urbana: University of Illinois Press.
- Orton, R., A. Hunt and R. Kirk. 1991. "Graphical Control of Granular Synthesis using Cellular Automata and the Freehand Program." In B. Alphonce and B. Pennycook, eds. *Proceedings of the 1991 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 416-418.
- Ovans, R., D. Murphy and T. Bartoo. 1995. "The Infinite Delay Line: Granulation as an In-Line Effect." In R. Bidlack, ed. *Proceedings of the 1995 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 241-242.
- Risset, Jean-Claude and Wessel, David L. 1999. "Exploration of Timbre by Analysis and Synthesis." In D.Deutsch, ed. *The Psychology of Music.* 2<sup>nd</sup> edition. San Diego: Academic Press, pp. 113-169.
- Roads, Curtis. 1978. "Automated Granular Synthesis of Sound." *Computer Music Journal* 2 (2): 61-62.
- Roads, Curtis. 1985a. "Granular Synthesis of Sound." In C. Roads and J. Strawn, eds. 1985. *Foundations of Computer Music*. Cambridge, Massachusetts: MIT Press, pp. 146-159.
- Roads, Curtis. 1985b. "Granular Synthesis of Sound: Past Research and Future Prospects." Paper delivered at the *Sixth Italian Computer Music Conference*, University of Naples, Italy.
- Roads, Curtis. 1988. "Introduction to Granular Synthesis." *Computer Music Journal* 12 (2): 11-13.

Roads, Curtis. 1991. "Asynchronous granular synthesis." In G. DePoli, A, Piccialli, and C. Roads, eds. *Representations of Musical Signals*. Cambridge, Massachusetts: MIT Press, pp. 143-186.

- Roads, Curtis. 1993. "Musical Sound Transformation by *Convolution*." In S. Ohteru, ed. *Proceedings of the 1993 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 102-109.
- Roads, Curtis. 1996. "Granular Synthesis." In *The Computer Music Tutorial*. Cambridge, Massachusetts: MIT Press, pp. 168-184.
- Roads, Curtis. 2001. Microsound. Cambridge, Massachusetts: MIT Press.
- Roads, Curtis and Alexander, John. 1997. *Cloud Generator*. Computer software. 1995, original version. Internet: ftp://ftp.create.ucsb.edu/pub/CloudGenerator/cg.nofpu.hqx, 1 September 2002.
- Rolfe, Chris and Keller, Damian. 2000. *MacPod 1.3.* Computer software. 1998, original version. Internet: http://www.thirdmonk.com/Download/MacPod13.hqx, 28 August 2002.
- Todoroff, Todor. 1995. "Real-Time Granular Morphing and Spatialisation of Sounds with Gestual Control within Max/FTS." In R. Bidlack, ed. *Proceedings of the 1995 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 315-318.
- Truax, Barry. 1986. "Real-Time Granular Synthesis with the DMX-1000." In P. Berg, ed. *Proceedings of the 1986 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 231-235.
- Truax, Barry. 1987. "Real-Time Granulation of Sampled Sound with the DMX-1000." In S. Tipei and J. Beauchamp, eds. *Proceedings of the 1987 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 138-145.
- Truax, Barry. 1988. "Real-Time Granular Synthesis with a Digital Signal Processing Computer." *Computer Music Journal* 12 (2): 14-26.
- Truax, Barry. 1990a. "Chaotic Non-linear Systems and Digital Synthesis: An Exploratory Study." In *Proceedings of the 1990 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 100-103.
- Truax, Barry. 1990b. "Time-Shifting of Sampled Sound with a Real-Time Granulation Technique." In *Proceedings of the 1990 International Computer Music Conference*. San Francisco: International Computer Music Association, pp. 104-107.
- Truax, Barry. 1990c. "Composing with Real-time Granular Sound." *Perspectives of New Music* 28 (2): 120-134.

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Truax, Barry. 1992a. "Musical Creativity and Complexity at the Threshold of the 21<sup>st</sup> Century." *Interface* 21(1): 29-42.

- Truax, Barry. 1992b. "Composing with Time-Shifted Environmental Sound." *Leonardo Music Journal* 2 (1): 37-40.
- Truax, Barry. 1992c. "Electroacoustic Music: The Inner and Outer World." In J. Paynter, et al., eds. *Companion to Contemporary Musical Thought*. London: Routledge, Vol. 1 pp. 374-398.
- Truax, Barry. 1994a. "The Inner and Outer Complexity of Music." *Perspectives of New Music.* 32 (1): 176-193.
- Truax, Barry. 1994b. "Discovering Inner Complexity: Time Shifting and Transposition with Real-time Granulation Technique." *Computer Music Journal*. 18 (2): 38-48.
- van der Schoot, Arjen. 1999. *thOnk 0+2*. Computer software. 1996, original version. Internet: http://www.audioease.com/download/thOnk\_0+2.sit.hqx, 5 September 2002.
- Wiener, N. 1964. "Spatial-temporal Continuity, Quantum Theory, and Music." In M. Capek, ed. 1975. *The Concepts of Space and Time*. Boston: Reidel, pp. 539-546.
- Xenakis, Iannis. 1992. *Formalized Music*. New expanded edition. 1971, first edition. Stuyvesant, NY: Pendragon Press.