

Biographies

Ralph H. Abraham

is Professor of Mathematics at the University of California at Santa Cruz. He received the Ph. D. in mathematics at the University of Michigan in 1960, and taught at Berkeley, Columbia, and Princeton before moving to Santa Cruz in 1968. He has held visiting positions in Amsterdam, Paris, Warwick, Barcelona, Basel, Florence, and Siena, and is the author of Foundations of Mechanics (with J. E Marsden), Transversal Mappings and Flows, (with I. Robbin) Manifolds, Tensor Analysis, and Applications (with J.E. Marsden and T. Ratiu), and Dynamics, the Geometry of Behavior (with C.D. Shaw). He has been active on the research frontier of dynamics — in mathematics since 1960, and in applications and experiments since 1973. In 1975, he founded the Visual Mathematics Project at the University of California at Santa Cruz.

Kristi A. Allik

born in Toronto, CAN. She has received degrees from the University of Southern California, Princeton University and the University of Toronto. Kristi Allik has received numerous commissions and awards including Canada Council grants, Ontario Art Council grants, the Federation of University Women Award and the Irving G. Mills Award. She has written an opera, been involved with theatrical productions, and has written a number of integrated media works. She has had performances of her works in Europe, USA and Canada. Allik became interested in electroacoustic music several years ago. Currently she is on Faculty at Queen's University School of Musik where she teaches composition, computer musik and musik theory.

Harald Atmanspacher

born 1955 in Witzenhausen (Germany). He studied physics in Göttingen, Zurich and Munich from 1976 to 1982 and received a Ph.D. degree 1985 in Munich. He wrote his PhD thesis on "Loser intracavity absorption spectroscopy and nonlinear dynamics of cw multimode lasers". From 1986 to 1988 he was Reimar Lüst fellow. Since 1988 he was been research scientist in the theory division of the Max Planck-Institut für Extraterrestrische Physik in Garching / Munich. Atmanspachers current man fields of interest are nonlinear dynamics (astrophysical applications and foundational issues); meaning and complexity, endo-exo — problems; selected topics of epistemology and history of science. He has done Organization of conferences and workshops on Information Dynamics, The Paradigm of Self-Organization, and Endo / Exo-Problems in Dynamical Systems. He has a Membership in international scientific organizations, boards, and committees and Editor of the volume "Information Dynamics" (together with H. Scheingraber) and author of numerous publications in scientific journals and books.

Michael Bielicky

born in Prague, 1954. In 1969 Michael Bielicky emigrated to West Germany, where he studied medicine at Düsseldorf University. In 1980 and 1981 he worked as a freelance photographer in NYC and in 1984 entered the Academy of Fine Arts in Düsseldorf, where he received his MA from Nam June Paik in 1987. He cofounded "Continuum", a multi-media art group in 1985 and had a fellowship to City Internationale des Arts in Paris, F. Michael Bielicky won the First Prize of the Nixdorf AG Art Award Competition in 1989 and founded

in 1991 the Video Department at Academy of Fine Arts in Prague, where he is teaching as Associate Professor. His work has been shown in various and numerous shows all over the world, amongst them at MOMA, NYC, and documenta 8, Kassel.

Timothy Binkley

Timothy Binkley is Chair of the graduate program in Computer Art at the School of Visual Arts in NYC, where he also directs the Institute for Computers in the Arts. He is the author of two books, "Wittgenstein's Language" and "Symmetry Studio" as well as numerous articles on aesthetics. He has created software for artists, including "Paint Brush" and "Symmetry Studio", and has designed interactive installations, including Autoform, Face to Face, Drawn to the Light and Watch Yourself.

Andreas Boettger

born in Stuttgart, 1955. In 1981 Andreas Boettger received his degree for percussion in Freiburg and was there as an Associate Professor. He was co-founder of the Ensemble Modern and has had performed with them for years, before he became a member of Karlheinz Stockhausen's ensemble. He collaborated with various composers (Henze, Boulez, Mello, Zappa) at their premiers. Andreas Boettger is internationally performing as solist and in chamber music concerts and has had a number of radio and disc recordings.

Jean-Louis Boissier

born in Loriol-sur Drome, F, 1945. Jean Louis Boissier is teaching as a Maitre de Conference for arts at university of Paris and is involved with aesthetic changes of the image which are happening in connection with technologies of the interactive and the virtual. He has created interactive video discs, amongst them "Le Bus" (1985), "Image calculée" (1988—90) and "Anthologie du virtuel" (1992). Boissier is a theorist and does exhibitions, and has been involved with "Les Immatériaux" at Centre Pompidou Paris in 1988 and "Machines à communiquer" at Cité des Sciences et de l'industrie in 1991.

Bernd von den Brincken

born in 1962. Bernd von den Brincken studied electric and photo engineering and founded a computer marketing company in 1987. In 1990 he founded an advertising company. He has been working as an journalist and artist within the frame of the Institut für Kommunikation since 1986. His main fields there are media, science and communication. Bernd von der Brincken has done numerous performances, lectures and workshops.

John L. Casti

born in Portland, Oregon, 1943. Following completion of a doctorate in Mathematics from the University of Southern California in 1970. He left the USA in 1974 to take up a post as one of the first research staff members of the International Institute for Applied Systems Analysis (IIASA) in Vienna, Austria. With the exception of a small break in the late 1970's and early 1980's to serve on the faculties of New York University and Princeton, he worked at IIASA on problems of system modeling and applied systems analysis until the autumn of 1986. At that time Casti left to join the faculty of the Technical University of Vienna as a Professor in the Institute for Econometrics, Operations Research, and System Theory. As an applied system modeler he has professionally engaged in a collection of activities running the gamut

from atmospheric radiative transfer to the shift of racial mixes in urban housing distribution and upon the role of biological metaphors for economic and other social phenomena. Costi has devoted a substantial part of his time to the preparation of three books on science for the student and / or general reader *Alternate Realities: Mathematical Models of Nature and Man* (Wiley, 1989), *Paradigms Lost: Images of Man in the Mirror of Science* (Morrow, 1989) and *Searching for Certainty*, dealing with the degree to which the science of today is in a position to predict and / or explain everyday phenomena.

John M. Chowning

born in Salem, New Jersey, in 1934. He studied composition in Paris for three years with Nadia Boulanger. In 1966 he received the doctorate in composition from Stanford University, where he studied with Leland Smith. With the help of Bell Telephone Laboratories and David Poole of Stanford in 1964 he set up a computer music program using the computer system of Stanford's Artificial Intelligence Laboratory. In 1967, John Chowning discovered the frequency modulation (FM) algorithm in which both carrierfrequency and modulatingfrequency are within the audio band. John Chowning has received fellowship grants from the National Endowment for the Arts and was artist-in-residence with the Künstlerprogramm des Deutschen Akademischen Austauschdiensts for the City of Berlin in 1974, and guest artist in IRCAM in 1978—79, in 1981 and in 1985. John Chowning currently teaches computer-sound synthesis and composition at Stanford's Department of Music and is director of the Center for Computer Research in Music and Acoustics (CCRMA).

Michael Conrad

Michael Conrad is Professor of Computer Science and a member of the Neuroscience Program at Wayne State University. He received an AB in Biology from Harvard College in 1963 and a PhD in Biophysics from Stanford University in 1969. He was a postdoctoral fellow at the Center for Theoretical Studies at the University of Miami, a postdoctoral scholar in the Department of Mathematics at the University of California at Berkeley, and from 1972 to 1975 a member of the Institut für Informationsverarbeitung in the Physics Department at the University of Tübingen. He moved to his present position in 1979, after holding associate professorships in the Biology Department at the City College of New York and in the Department of Computer and Communication Sciences at the University of Michigan. Michael Conrad's more than 180 scientific publications include papers on molecular computer design, quantum mechanical models of enzyme and membrane dynamics, molecular mechanisms of information processing in neurons and brain models, His book "Adaptability: the Significance of Variability from Molecule to Ecosystem" provides an information and systems theory formalism for classifying and analyzing the vast variety of mechanisms that enable biological systems to continue reliable function in the face of an uncertain environment. Michael Conrad has been a Visiting Scholar at Cavendish Laboratory, Cambridge University (1979 and 1982), a U.S. National Academy of Science Exchange Scientist to the Soviet Union, a U.S. National Science Foundation Exchange Scientist at the Molecular Biophysics Unit of the Indian Institute of Science, a Japanese Ministry of Education Special Visiting Professor at the Nagaoka University of Technology (in 1987), and is a permanent Visiting Professor at Southeast University in Nanjing.

David Dunn

Experimental composer and interdisciplinary artist David Dunn has worked in a variety of sound and image media, including traditional instruments, tape music and live electroacoustic

performance, as well as developing a variety of interactive environmental structures. For approximately fifteen years his work has explored the interrelationship between a variety of geophysical phenomena, environmental sound, and music. The connection of this work to nonmusical disciplines such as experimental linguistics, cognitive ethology, cybernetics and systems philosophy has expanded his creative activities to include philosophical writings and media projects within a broad domain. He has moved progressively toward activities which transcend musical composition per se towards the embracing of the idea of artists as whole-system consultants and integrators.

Zoltan Farkas

born in Budapest, H, 1962. Zoltan Farkas studied at Bela Bartok Conservatory in Budapest and was performing as an electric guitarist, bassist and keyboard player with the main Hungarian underground rock groups during the eighties. Since 1987 he has performed with his own group Eastern Light" throughout Western Europe and has been a member of the Rhys Chatham ensemble in Paris since 1988. Zoltan Farkas lives and works in Paris.

David Finkelstein

born in NYC, 1929. David Finkelstein studied Physics at City College of New York and Massachusetts Institute of Technology, where he left with a Ph. D. in 1953. He has held a large number of positions at the worlds most important institutions of physics, e.g. as Ford Foundation Fellow at the European Centre for Nuclear Research, Associate Professor at Stevens Institute of Technology and Yeshiva University, NYC, or as Director of School of Physics at Georgia Institute of Technology, where he currently is Professor. David Finkelstein is editor of the International journal of Theoretical Physics and secretary and organizer of the International Quantum Structures Association. He is a member of the American Physical Society, the International Quantum Structures Association and the International Society for General Relativity and Gravitation. He has published numerous articles and books on theoretical and mathematical physics and sees his goals in teaching and research at the frontier of physics with the emphasis on the integration of dynamics of quanta and spacetime.

Friedrich Förster

involved since the beginning of the 1970's with the artistic possibilities of laser light in connection with music.

Johannes Fritsch

born in Jens-Auerbach, G, 1941. Johannes Fritsch studied music, sociology, philosophy, viola and composition with B.A. Zimmermann at University and Academy of Music in Cologne and has performed with various orchestras. in 1965 he received his degree in" viola ". From 1964 thru 1970 Johannes Fritsch was member of the Stockhausen Ensemble and had numerous concerts. He received a number of awards and grants and founded, together with Rolf Gehlhaar and David Johnson, the Feedback-Studio in Cologne in 1970. A year later he founded the first German composers" edition and published the FeedbackPapers. Four times he was organizer/ promoter of the Weltmusik congresses at Vlotho and from 1971 thru 1984 he was conductor of a composing class and of Seminar für Neue Musik at Academy for Sound Art in Darmstadt, G. Since 1984 Johannes Fritsch has been Professor for composition at Staatliche Hochschule für Musik, Cologne.

Jane E. Frommer

Jane E. Frommer is a research scientist with IBM Almaden Research Center, who is currently on sabbatical in the Physics Institute of the University of Basel, CH. She is formally trained as an organometallic chemist and her current area of research is at the interface between chemistry and physics, particularly in the regime where molecules interact with surfaces.

Dan Graham

born in Urbana, Ill., 1942. Dan Graham has had solo and group exhibitions in the most important galleries and museums in the USA, Europe, Japan and Australia since 1972, eg. at The Whitney Museum of American Art, NYC, Marian Goodman Gallery, NYC, The Carnegie Museum of Art, Pittsburgh, Kunsthalle Basel and Kunsthalle Bern, CH, Art Gallery of Western Australia, ARC Musée d'Art Moderne de la Ville, Paris, Kunstverein München, Dia Center for the Arts, NYC, Margo Leavin Gallery, L.A. or at Lisson Gallery, London. Dan Graham lives and works in New York.

Gerald Harringer

born in Linz, A, 1962. Gerald Harringer finished his apprenticeship as an electrician in 1982 and studied at the Linz Academy of Industrial and Artistic Design from 1984 thru 1990. He is cofounder of the artists' group MOBILAR LINZ and has done various exhibitions and competitions. In 1990 he conceived and organized the international video festival QUERSPUR in Linz, together with Wolfgang Preisinger and Brigitte Vasicek. From 1991 thru 1992 he was a post graduate student for film and video at Saint Martins School of Art and Design in London. Since 1989 Gerald Harringer has been working on media, visual design and communication design concepts together with Wolfgang Preisinger as DIE FABRIKANTEN.

Agnes Hegedüs

born in Budapest, H, 1964. Agnes Hegedüs studied at the Hungarian Applied Art Academy, Minerva Academy, NL, AKI Art Academy, NL and Institut für Neue Medien, Germany. Since 1987 she worked with video, and from 1989 on she has made interactive works combining video and computer images based on sound interaction. In the last two years she produced several computer installations using special projection techniques ("RGB VW", "Plain Plane Playing", "Unstable") and 3D interactive computer graphic installations ("4 Space", "The Fruit Machine").

Benjamin Heidersberger

born in 1957. Benjamin Heidersberger studied physics, biology and informatics and is a journalist and editor of the Macintosh magazine MACup, as well as an artist. He is co-founder and director of Ponton Media Lab in Hamburg, an institute which is involved with the network interdependence of various media, interaktive TV and new user surfaces.

Günter Held

born in Frankfurt / M, G, 1962. Günter Held was working in the fields of marketing research and direct marketing in Frankfurt, before he started his studies of aesthetics at the Hochschule für Film und Design in Offenbach. Between 1984 and 1986 he created his first objects and

metal sculptures and founded the "00 C' gallery in Frankfurt. From 1986 thru 1988 he led the same gallery in Berlin and since then has been involved with the developing of stimulate current devices and stimulation apparatuses for the purpose of sexual pleasure. Günter Held founded the institute "Neuroserv" in 1989 and is a freelance cooperator at the Institut für Hochspannungstechnik und Starkstromanlagen (for high tension techniques and heavy current installations) of Technical University Berlin. In 1990 he built his first Tesla coil and has undertaken extensive experiments with a long wave transmitter in the area of Telekom.

Donald D. Hoffman

Don Hoffman is a Professor at the University of California, Irvine, in the Department of Cognitive Science and in the Department of Information and Computer Science. He received his B. A. in Quantitative Psychology from the University of California, Los Angeles, and his Ph.D. in Computational Psychology from the Massachusetts Institute of Technology. Hoffman's research uses tools from the fields of artificial intelligence, mathematics, and psychophysics to study biological and robotic vision — in particular, to study the recovery of three-dimensional structure from twodimensional images and the recognition of three-dimensional objects, and to develop a general mathematical framework for the study of perception and its relation to the world. The mathematical framework is presented in the book *Observer Mechanics* (Academic Press, 1989; B. Bennett, D. Hoffman, C. Prakash). Hoffman has received a Distinguished Scientific Award from the American Psychological Association for his research into perception.

Huemer / Jelinek.

Markus Huemer, born in Linz, 1968; Robert Jelinek, born in Pilsen, CFSR, 1970. Huemer / Jelinek have been collaborating since 1989 when they received a granted studio by the Upper Austrian government. In 1990 they took part in exhibitions at Wels and Linz and had solo shows in Linz. In 1992 they received a foreign fellowship for a stay in Rome, Italy.

Henry Jesionka

born in Toronto, CAN. Henry Jesionka received a degree in Media Studies from School of Graduate Studies / Centre for Media Study at State University of New York at Buffalo, a Bachelor Degree in Media Studies from the Ryerson Polytechnical Institute, Toronto and attended two years of Physics Program at University of Waterloo. He was employed by Oceana Matrix for 3-D computer animations and lectured Advanced Digital Arts at the Department of Media Study / Suny at Buffalo. From 1987 thru 89 he was Assistent Professor of Film and Video at the Center for the Arts at Simon Fraser University in Vancouver and is currently Adjunct Assistant Professor of Digital Arts and Video at State University, Buffalo. Henry Jesionka has had exhibitions, screenings and performances in USA and Europe and has received awards and grants as the 1st Prize of the Three Rivers Arts Festival, Pittsburgh or the NEA / Rockefeller Foundation "New Forms" grant as well as fellowships and commissions.

Rainer Jessi

Light production for theatre productions at "Spielstatt" and the Phönix theatre since 1980. Light-spatial design for concerts.

Georg Kampis

born in Budapest, H, 1958. Georg Kampis took his Master's Degree from the Budapest Technical University in Electrical Engineering with a specialization for technical physics and solid state technology. After having worked for two years with the Hungarian Academy of Sciences' Central Research Institute for Physics, he has changed his profession and turned his pastime interest in biology and cybernetics. Between 1984 and 1987 he was a doctoral student at ELTE, Budapest's science university, where he defended his Ph.D. in 1988. Currently he is a Senior Research Fellow at the Department of Ethnology at EL TE and Research Fellow in Tübingen, Germany. His research interests are theoretical biology, cognitive science, systems science and philosophy. He has published over 40 papers, his main work is "Self-Modifying Systems in Biology and Cognitive Science — A Framework for Dynamics, Information and Complexity", Pergamon 1991.

Lars Löfgren

born in Stockholm, 1925. Lars Löfgren received his master's degree in physics in 1949, "licentiat" in mathematics in 1954, and doctor's degree in mathematics in 1962, all from Kungliga Tekniska Högskolan, Stockholm. In 1947-62 he worked with the Swedish Research Institute of National Defense, with positions from research assistant to "laborator". In 1959—61 he held visiting positions with the Biological Computer Laboratory at the University of Illinois, Urbana, U.S.A. In 1963—91 he was professor and head of the department of automata theory and general systems at the University of Lund. In 1966—68 he revisited the Biological Computer Group at the University of Illinois as a visiting associate professor. At present he works as professor emeritus at the department of information theory, University of Lund, where he is mainly concerned with foundational questions within systems theory with roots in metamathematics.

Rudolf Macher

born in Steyr, A, 1960. Rudolf Macher studied with Arnulf Rainer at Academy of Fine Arts in Vienna from 1983 thru 1989 and lives in Vienna. His work has been shown in numerous exhibitions in Austria and NYC.

Klaus Madzia

born in 1966. Klaus Madzia has been raised in England and Germany and lives as a journalist in Hamburg.

Christian Möller

born in 1959 in Frankfurt / Main. 1981—1986 studied architecture in Frankfurt. 1986—1988 scholarship at the Academy of Fine Arts in Vienna, Meisterschule Gustav Peichl. 1988—1990 member of the architects' office "Behnisch and Partner" in Stuttgart. Since 1991, he has had his own office in Frankfurt and is a member of staff at the Institute for New Media in Frankfurt. Since 1992, lectureship for virtual architecture in the architecture class at the Städelschule in Frankfurt.

David Muller

David Muller is currently an electrical engineer working for the Department of Physics and Astronomy, the University of Iowa, Iowa City, where he designs circuits and software for a satellite instrument that will take images of the Aurora Borealis. From 1984 thru 1990 he was

an audio engineer for The Experimental Music Studios, School of Music at University of Iowa. During this period he developed a computer music workstation for use by composers, conducted research and taught classes in techniques of computer composition for music, video and other media, and composed works of music and graphic arts with the computer. David Muller was an engineering student at Iowa State University, Ames, Iowa, from 1976 to 1977.

Robert C. F. Mulder

born in Den Haag, NL, 1943. Since the age of 14 Robert Mulder has followed a path of self-guided education as an electronic artist. Currently his interests are in the field of time-dependent visual phenomena, and applications which utilize visual art as a process, rather than as object. He has won numerous grants and awards in national and international competitions. Mulder engages in concerts, lectures world-wide and his performances and installations have been experienced by audiences throughout Canada, the USA and Europe.

Klaus Obermaier

studied at the Bruckner Academy of Music in Linz and at the University for Graphic and Interpretative Art in Vienna. Graduated with honours and a concert diploma. Studied painting at the College of Art in Linz. 1990 Promotion Award for composition from the Upper Austrian Local Government. Worked with Ornette Coleman, Heiner Goebbels, Ensemble Modern / Frankfurt, the German Kammerphilharmonie. Toured Europe, USA and Asia. Played at international Jazz and Guitar Festivals. Awarded composition commissions by various Ensembles (Arnold Quartett / Frankfurt, Konzertensemble Salzburg). Music for theatre and performances.

Jürgen Parisi

born in Rottweil, Germany, 1957. Jürgen Parisi received the B.S. degree in physics from the University of Stuttgart in 1974, the M.S., the Ph.D., and the habilitation degrees (Dr.rer.nat.habil.) in physics from the University of Tübingen. Since 1982, he has been working as Assistant and Visiting Professor at the Departments of Physics, University of Tübingen, University of Bayreuth, and University of Zürich. His current research activities include non-linear dynamics and self-organizing structure formation phenomena in various non-equilibrium dissipative systems, particularly focussing on semiconductor, superconductor, and laser physics. Major parts of his work strongly benefitted from the perpetually inspiring cooperation with Otto E. Rössler at the Institute for Physical and Theoretical Chemistry, University of Tübingen, started in 1984.

Gordon Pask

is currently professor of general andragology (Social Cybernetics, inter-personal and intrapersonal interactions of actors, often through machines), in the OOCI CICT / Amsterdam University, of the Architecture of Knowledge at the Architectural Association, London, and remains adjunct professor at Brunel University, U.K. He received a Bachelor's, his Master's on studying philosophy in residence at Cambridge (Downing College). He studied for and obtained a Ph.D. in Psychology, at London University, University College and the higher doctorate, D.Sc., at the Open University, U.K. Pask co-founded System Research, a non profit organisation in 1953 and served as director of research until 1980, when he became fellow in residence at NIAS. He was one founding professor, research, in the Dept. Cybernetics, Brunel University, elected in 1968. He has been visiting professor at University of Illinois, Urbana, at

University of Oregon, Portland, at UNAM, Mexico, at Georgia Tech, Atlanta, at U. of Chicago Circle, at the U.K. Open University from 1970 until submission of D.Sc. research and dissertation; from 1981 to 1988, professor of Ed Tech and cofounder of Centre for Cybernetics and Applied Epistemology and, on several occasions visiting professor at centre for Cybernetic Studies of complex systems; Old Dominion. U. Norfolk, Virginia.

Franz Pichler

born in Thalgau, A, 1936. Franz Pichler has studied Mathematics at University of Innsbruck and was working as an engineer in Linz. He is professor for Systems Theory at Institut für Systemwissenschaften at University of Linz and has had various foreign stays, amongst others at University of Maryland, WA, in 1970, National Physical Laboratory, London in 1971 and State University of New York, Binghamton, NY, in 1975/76 and in 1982/83. His working emphasis is put on Mathematical Systems Theory, CAST, Kryptographics and History of Technics.

Pomo Como:

Will Bauer (B.Sc., P.Eng.)

is a computer engineer and musician currently based in Edmonton, where he co-founded the industrial supercomputing company VisionSmart Inc. He has been trained in dance and music, and has performed at festivals such as the Edmonton Fringe and the Victoria Festival. Will's research has earned him several patents, publications, and prizes mostly for his development of the Gesture and Media System Interface (GAMS). His article on GAMS is forthcoming from the Computer Music Journal.

Mark Bell (B.F.A.)

is a technological musician who studied at the Royal Conservatory of Musk in Toronto and the University of Victoria, where he studied with John Celona, Rudolph Komorus and Eva Lenderman. He has specialized in computer applications for music, and has worked in various genres from experimental to commercial. As co-founder of Club DD, Mark has organized and performed multimedia shows in Vancouver, Toronto and Georgia; releasing several independent tapes.

Geoffrey Bendz (B.A., M.A., B.F.A.)

is a photographer and computer artist from Vancouver. He studied political science and photography at Simon Fraser, Carleton, and Concordia Universities. He has shown his iconic photography at Galerie Stornoway, the Canal Complex, and at several group shows. His photography has appeared in several publications including the Canadian journal for Social and Political Theory.

Marc Boucher (B.F.A.)

is a Montreal-based performance artist. After training at the École nationale de Cirque and touring with the Cirque du Soleil, Marc studied mime, dance and choreography and graduated from Concordia University with a B.F.A in contemporary dance. As an independent choreographer with interests in theatre and video, he has received an Explorations Grant and a SAW video production residency.

Steve Gibson (**B.F.A., M.F.A., Ph.D.**)

obtained his doctorate in music composition at the State University of New York at Buffalo, where he studied with Louis Andriessen, David Felder, Frederick Rzewski, and other composers. His music in traditional instruments and electronics has been performed extensively in venues such as the Whitney Museum in NY, the North American New Music Festival (1989 and 1997), and the University of Wisconsin. His film scores and work in mixed-media has also been presented in several countries.

Kelly Hargraves (**B.A., B.F.A.**)

studied contemporary dance at Concordia University, and communications at the University of Windsor. Her dance teachers have included Sylvain Emard, Pablo Vela, Jo Lechay, and Elizabeth Langley. Her work has appeared in spaces across Canada, both as part of companies such as Theatre Anima and Gina Lori Riley Dance, and as an independent choreographer. Her videos have been presented at festivals including the Festival International de Nouvelle Danse.

Andreas Kitzmann (**B.Admin., B.F.A., Ph.D.**)

is a German / Canadian creative writer and actor, who is completing a doctorate in comparative literature. He has given readings and lectures at the University of Kentucky, the University of Victoria, and at McGill University. He is assistant editor for the journal Copyright, a publication of contemporary cultural critique, from Harvard University. He is a founding member of PoMo CoMo and co-wrote the script of IMmediaCy.

Rafael Lozano-Hemmer (**B.Sc.**)

is a conceptual artist, author, and chemist working mostly in computer animation and installation. He has been guest artist at the Banff Centre for the Arts for the Networking and Border Culture residencies, and his work has appeared in environments as diverse as The Ontario College of Art, Danish State Radio, Galerie Stornaway, and the Alberta College of Art. This year he will exhibit electronic sculptures in Madrid. He is founding member of PoMo CoMo.

Radiolabor:
Rudolf Danielczyk

born in 1964 in Linz, Austria. Attended Higher Graphics College and Research Institute, Vienna (photography); Ecole Nationale de la Photographie, Arles (France); Various individual and group exhibitions in Austria and abroad. Participated in video festivals in France; Concept and realization of Slide-Audio-Video Shows for various festivals (Rencontre Internationales de la Photographie and Festival Off); Concept and realization of various exhibitions in Austria and abroad; Lives and works in Linz as a freelance artificial light artist

Bert Estl

born in 1968 in Linz, Austria. Served on apprenticeship as a printer, worked on Kapu, Stadtwerkstatt (screenprint, video, Ars Project "Automaten TV") Cultural work training — KUPF UA, cultural work in KAPU (PR, organization of concerts), subvention transactions, project management "Radiolabor" in the "Offenes Kulturhaus", Co-initiator of the Kapu Radio

Show, various computer, video and music projects, participated in various video festivals, Board Member of KUPF

Christoph Fürst

born in 1965, in Freistadt. Studied the history of art in Vienna for 2 years, has been attending the Art College in Linz since 1987. Freelance graphics artist for the past 6 years; various exhibitions and trick films.

Walter Nadler

born in 1963, in Bad Ischl. Attended the Wood Working College in Hallstatt, carpentry and interior decoration: Student at the Art College in Linz: various exhibition concepts and designs; Stage designer at the Phönix and Kuddelmuddel theatres.

Thomas Pichler

born in 1964, in Innsbruck. After finishing school, he studied informatics. Moderation and design with "Radiolabor" at the OK, Linz. Bass player with the passengers and FUCKHEAD. Worked on the Kapu Radio Show

Mark Voika

sound technology at Radiolabor", musician.

Wolfgang Reisinger

1979 to 1989, drummer and percussionist with the Vienna Art Orchestra. Co-founder of the ensembles 'Part of Art', 'Air MaX' and 'Pat Brothers' Concerts in Europe, Japan, and USA Compositions for films and theatre.

Otto E. Rössler

born 1940. Electronic gadgets captured the imagination since his highschool days as a radio amateur. The student was inspired by Bertalanffy's analogy between flame and organism to develop a connection between fire and evolution ("extrinsic" vs. "intrinsic" growth). Then came a theory of anthropogenesis based on a deductive theory of brain function developed in an exchange with K.Z. Lorenz. In 1976, a 6-minute computer movie with soundtrack was produced which featured "different types of Chaos in simple differential equations". It unexpectedly contained well-known sounds, and a 3-minute extension 3 years later added hyperchaos and the sound of raindrops falling on a car roof In the 1980's, a conceptual fusion occurred between the limit to exact observation from the inside implicit in chaos theory, on the one hand, and an intuitive "glass cutter's principle' (impossibility to cut glass with glass) which had been formulated in the 60's as a qualitative explanation of quantum mechanics, on the other. The result was "endophysics".

Gerhard Roth

born in 1942. Gerhard Roth is director of the 1989 founded Institute for Brain Research at University Bremen. He studied philosophy and left with a P.h. degree in 1969, before he studied biology which he finished with a zoological thesis in 1974. His scientific work's

emphasis is put on neuroethology and comparing neurobiology, investigations on evolution and ontogenesis of complex functional systems, cognition theoretical investigations and network modelling on perception of vertebrates, as well as investigations on theory and practice of biology.

Florian Rötzer

born in Munich, 1953. Florian Rötzer lives as a freelance writer in Munich.

Claire Roudenko-Bertin

Claire Roudenko-Bertin has had a number of solo and group exhibitions, e.g. at Grand Palais, Centre George Pompidou and Galerie Tugny-Lamarre in Paris, as well as in various European and American museums, galleries and festivals. Before all she is involved with video and electronic media, there have been published a large number of articles on her work.

Michael Saup

born in Jungingen, G, 1961. Michael Saup studied music at Dominican College in Son Rafael, CA, informatics in Furtwangen and visual communications at the Hochschule für Gestaltung in Offenbach. Since 1989 he has been teaching video and computer at Academy of Fine Arts in Munich, since 1990 at Hochschule für Gestaltung Offenbach and has been since then artistic scientific cooperator at Institut für Neue Medien Frankfurt. Michael Saup received the Flash Art award for flashlight photography and the jury's special award of the 4. Marler video art price for his work Paradays in 1990. He has had numerous performances and exhibitions in Europe and the USA.

Jeffrey Shaw

born 1944, in Melbourne, Australia. Studied architecture and art history at the University of Melbourne, and sculpture at the Brera Academy Milan and St. Martins School of Art London. Shaw was a founding member of the Eventstructure Research Group (1967—80) and at present is Head of the Institute for Image Media at the Center for Art and Media Technology (ZKM) in Karlsruhe. Shaw has been making interactive media events, installations and sculptures since the mid 60's. He was awarded the Ars Electronica prize (Linz) and the L'Immagine Elettronica prize (Ferrara) in 1990. His works have been shown at major museums and festivals worldwide and include: "The Narrative Landscape" (mit Dirk Groeneveld), Amsterdam 1985; "Inventer la Terre", Musée des Sciences et de l'Industrie Paris 1986; "Heavens Gate" (mit Harry de Wit), Amsterdam 1987; "The Legible City" (mit Dirk Groeneveld), Maastricht 1988; "The Imaginary Museum of Revolutions" (mit Tjebbe van Tijen), Linz 1989; "Alices's Room", Kawasaki 1989; "Revolution", Amsterdam 1990; "The Virtual Museum — Das Belebte Bild", Art Frankfurt 1991.

Robert Spour

studied piano at the Bruckner Academy of Music in Linz. Prize winner at the International jazz Festival in Brussels. Has been working with electronic sound producers since 1980. Played with a number of jazz and improvisation ensembles in Austria and abroad. Since 1984, electronic projects with the improvisation ensemble "Camorra", amongst others, at the International Festival in Berlin, Valencia and Zagreb. Concerts and recordings with the German Kammerphilharmonie. Toured Europe and USA. Awarded composition commissions

by various ensembles (wind instrument ensemble Pro Brass, Upper Austrian Kammerorchester). Music for theatre and performances.

Stadtwerkstatt TV

Chronology of Works:

Stadtwerkstatt TV was founded to use television as a tool for art.

1986: Started with the project "Nebenraum" (Adjoining Room) during the Austrian Film Festival in Wels.

1987. First negotiations with media politicians and ORF (Austrian Radio and Television) for transmission time as an extended stage of Ars Electronica. Ultimately, the network has to be installed itself. The project "Hauptplatz-TV-Konzert"(Main Square Television Concert), an electronic non-amplified sound narrative with the underground car park construction site in the Main Square in Linz. Filmed by three cameras, mixed live and broadcast simultaneously on a large television set at the Trinity Column Monument.

"Hotelevision ": During the Austrian Film Festival, a 24-hour live daily TV programme via the hotel- TV installation in the Hotel Greif, in Wels. Hotel TV is at present the only legal private TV alternative in Austria.

1989: "Automaten- TV". first realization of art TV in Austria via 3sat, in cooperation with Ars Electronica, LIVA and ORF Gambling hall as television studios.

1990: Training camp during the video festival "Querspur" in Linz.

"Live in Buffalo / NY", a total of 12 hours' interactive TV on six successive days, 320. 000 households were treated to art via cable TV.

1991: "Niemand ist sich seiner sicher" (Nobody is Safe): live on 3sat and Channel 2 in the course of Ars Electronica, in line with the motto "Out of Control", Physical and material analysis of the phenomenon of controlled life.

1992: "Im Teilchenschwungel der Wahrscheinlichkeit — Der Teufel steckt im Detail" (in the Particle Jungle of Probability — The Devil is in the Nuts and Bolts): live on 3sat and Channel 2 in the course of Ars Electronica, in line with the motto "Endo & Nano ". Thinking in possibilities.

Christoph Steffner

born in Altenmarkt, A, 1961. He studied engineering in Salzburg, economics and art in Linz and Berlin. Since 1987 he has been involved with machines, which "excessively are suitable to register existence's poetry in a very general way. Music has been able for a long time already." Christoph Steffner lives in Madrid and Altenmarkt.

Stelarc

born in Limassol, Cyprus, 1946. Stelarc (legally changed name from Stelios Arcadiou) studied at T. S. T. C. (Arts and Craft), at CAUTECH, R.M.I.T. and Melbourne University. He taught Art and Sociology at Yokohama International School from 1970 thru 1989 and Sculpture and Drawing at Ballarat University College. Stelarc has received grants from The Myer Foundation, Australia, and the Visual Arts / Crafts Board of Australia Council. Amongst others his major works are "amplified body events", "Filming the Inside of My Body" and the "Third Hand" events. His work is in collections of numerous galleries and museums.

Simon Stockhausen

born in Cologne, G, 1967. Simon Stockhausen had piano lessons with Pischen-Chen from 1972 on and wrote his first composition in 1974. From 1975 on he took saxophone lessons and has performed as keyboard and saxophone player in chamber music works by K.H. Stockhausen. In 1981 he received the composition award at Bergamo for his piano piece Non-Stop. Since 1983 he has performed in concerts with experimental jazz and has been writing sound tracks. In 1988 he founded together with Markus Stockhausen the Jazz group APARIS. He had a recording at ECM's in 1989. Simon Stockhausen has performed internationally with the Stockhausen Ensemble.

Michael Svoboda

born on the isle of Guam, 1960. Michael Svoboda was raised in Chicago and came to Europe after having received his degree in composition and conducting. In 1986 he graduated from a postgraduate class for trombone at Stuttgart. Beside extensively performing in concerts as a soloist and in chamber music orchestras he is collaborating with numerous composers (Zappa, Lachenmann, Eötvös). Since 1984 Michael Svoboda has cooperated with K. Stockhausen and has been performing in a number of concerts and premiers as a trombonist.

Karl Svozil

born in Vienna, A, 1956. Karl Svozil studied at University of Heidelberg, Germany, and at University of Vienna, where he graduated as Dr.phil. in Physics in 1987. In 1982/83 he was a visiting scholar at University of California at Berkeley and Lawrence Berkeley Laboratory, CA, in 1986 at Moscow State University, Leningrad. In 1988 Karl Svozil received a degree as Dozent in Theoretical Physics at Technical University Vienna and has a permanent position there since 1990.

Péter Szelezcki

born in Budapest, H, 1965. Péter Szelezcki studied at the Academy of Applied Arts in Budapest from 1985 thru 1990 and took part in "Sub Voce", a video exhibition at the Budapest Art Museum.

James Tenney

The work of James Tenney spans a wide range of musical investigation -from his early pioneering in computer music composition at Bell Laboratories in the 1960's (where he also carried our psychoacoustic research) and his performance work of the some period (Tone Roads Ensemble, Fluxus, New York Annual Avant Garde Festival) to his present-day concerns with alternative tuning systems, expanded harmonic theory and teaching. Tenney can equally be considered a composer, performer, theorist and educator. Since 1975, he has resided in Toronto, where he teaches composition at York University.

Kasper Toeplitz

born in Warsaw, PL, 1960. Kasper Toeplitz is an autodidact electric bassist and composer, who is influenced by Penderecki, Scelsi and rock groups like "Swans" or "Godflesh". He has written two operas and several works for chamber and orchestral formations. He has founded his own contemporary music ensemble "Transfuge" as well as his own rock band "Sleaze Art". Kasper Toeplitz lives and works in Paris, F.

Ichiro Tsuda

born in Okayama, Japan, 1953. Ichiro Tsuda has received a degree as Doctor of Science in Physics and a Master of Science in Physics from Kyoto University, as well as a Bachelor of Science in Physics from Ohsaka University. He has researched at Japan Society for Promotion of Science, at Reserach Development Corporation of Japan as a research leader und is currently working on Dynamics and Information Processing of Nonequilibrium Neural Networks, as well as on a Chaotic Memory Model, Measuring Complexity and General Brain Theory. Ichiro Tsuda is Associate Professor at the Department of Artificial Intelligence at the Faculty of Computer Sciences of Kyushu Institute of Technology.

Steina Vasulka

born in Iceland, 1940. Steina attended the Music Conservatory in Prague from 1959 to 1963 and joined the Icelandic Symphony Orchestra in 1964. She come to the USA the following year and has participated in the development of the electronic arts since 1970, both as a cofounder of The Kitchen, a major exhibition center in NYC, and as a continuing explorer of the possibilities for the generation and manipulation of the electronic image through a broad range of technological tools and aesthetic concerns. Her tapes have been exhibited and broadcast extensively in the USA and Europe, and in 1978 she had an exhibit, Machine Vision, at the Albright-Knox Art Gallery in Buffalo, NY. She was a Guggenheim Fellow in 1976 and has received various other grants. Since moving to Santa Fe, NM, in 1980 Steina has produced a series of video tapes relating to the land, and an installation entitled The West. She is currently working on another installation work: Scopes of Paradox. Recently she spent six months in Japan and currently is working on a video installation based on images brought back from the orient.

Woody Vasulka

born in Brno, CSFR. Woody Vasulka studied metal technologies and hydraulic mechanics at the School of Industrial Engineering there. He then entered the Academy of Performing Arts, Faculty of Film and Television in Prague, where he began to direct and produce short films. He emigrated to the USA in 1965 and freelanced in NYC as a film editor for the next few years. In 1967 he began experiments with electronic sounds, stroboscopic lights and (two years later) with video. In 1974 he become a faculty member of the Center for Media Study at State University of New York, Buffalo, and began investigations into computer controlled video, constructing, "The Image Articulator", a real-time digital video tool. With Steina he founded The Kitchen, a NYC media Theater, and has participated in many major shows in the States and abroad, given lectures, published articles, composed music and made numerous video tapes. He is a 1979 Guggenheim Fellow currently residing in Santa Fe, NM. Since his move, he has produced three video tapes, Artifacts, The Commission and The Art of Memory. He is now working on a new, largely computer assisted work, entitled Brotherhood.

Akke Wagenaar

born in the Netherlands, 1958. Akke Wagenaar studied engineering and logic at University of Amsterdam, audiovisual art at the Gerrit Rietveld Akademie in Amsterdam, photography and writing at Cooper Union Art Schoolin NYC Since 1990 she works and teaches at the Institut für Neue Medien in Frankfurt / Main. Her work was shown at various exhibitions in the Netherlands and Germany. She received two grants from the Dutch Fonds voor Beeldende Kunsten. Since 1989 her work focuses on computer art. Writing her own software, Akke

Wagenaar is momentarily working on the development of rule based systems and researching their possibilities for automated production of art.

Kurt Walz

Diploma in physics, software specialist. For ten years, development of laser graphics software for Friedrich Förster.

Eva Maria Weber

born in 1956. Eva Weber has a BA for sociology (national economics, statistics, psychology) and was editor of the Berlin daily "tageszeitung". Since then she lives as a freelance journalist with the emphasis on art and science.

Peter Weibel

born in Odessa, 1948. Peter Weibel studied literature, medicine, logics and philosophy in Paris and Vienna and wrote his thesis on mathematical logics. From 1976 thru 1981 he was lecturer for "theory of form" and from 1981 on Associate Professor for design and art education at the Academy of Applied Arts Vienna, as well as Guest Professor at College of Art and Design Halifax in Canada. In 1979/80 he was Guest Professor for media art, in 1981 lecturer for perception theory and in 1983 Professor for photography at Gesamthochschule Kassel. Since 1984 Peter Weibel has been Professor for visual media design at the Academy of Applied Arts Vienna and since 1985 he is Associate Professor for Video and Digital Arts at the Center for Advanced Studies at University of New York Buffalo. Since 1989 he is director of the Institut für Neue Medien at Stödelschule Frankfurt / Main, Peter Weibel has edited and published numerous publications, e.g. "Wiener Aktionismus und Film" (with Valie Export) Vienna 1970, "Die Beschleunigung der Bilder" Bern 1987, "Vom Verschwinden der Ferne" (with Edith Decker) Cologne 1990, or "Das Bild nach dem letzten Bild" (with Christian Meier) Cologne 1997.

Dietmar Wiesner

born in 1955. Dietmar Wiesner studied flute with Paul Meisen at Musikhochschule Detmold and attended seminars with Aurele Nicolet and Jean-Pierre Rampal. Since 1980 he is a musician and director of the Ensemble Moderne in Frankfurt / Main, with the emphasis on program conception. Dietmar Wiesner has had numerous performances at international festivals and has been as a soloist with the Ensemble 13 Karlsruhe on tours in Europe, Asia, and South America. He had numerous recordings with the Arditti Quartet in London and has cooperated with composers like Pierre Boulez, Peter Eötvös, Heiner Goebbels, Hans Werner Henze or György Ligeti.

MaLin Wilson

MaLin Wilson is an independent curator, writer and editor, who has been working as a curator since 1972. After receiving her BA from the University of Arizona in Art History and Cultural Anthropology, she received a MA degree from the University of Wisconsin. Following a Fellowship at the Toledo Museum of Art, she moved to New Mexico in 1973, where her appointments have included Curator at the Museum of Fine Arts, Santa Fe, and Director of the Jonson Gallery, the contemporary branch of the University Art Museum,

University of New Mexico. MaLin Wilson has curated over twenty exhibitions with catalogues and hundreds of articles.

Duncan Youngerman

born in Paris, F. 1956. Duncan Youngerman studied at Berklee College of Music in Boston, USA, and composed film scores from 1979 thru 1981. In 1982 he was as an assistant working with Bob Wilson on "Civil Wars". During the eighties he has composed numerous works for various chamber and orchestral formations. From 1988 thru 1991 he played electric guitar with the Rhys Chatham ensemble in Paris and received the "Bourse Leonardo da Vinci" from the French government, a grant for a stay in Budapest to compose, in 1989. Amongst his most important works there are "Le Nain Rouge", "Stratocaster", "L'An 1" and "Le Triomphe de l'Amour",

Slavoj Zizek

born in Ljubljana, YU, 1949. Slavoj Zizek is a philosopher and psychoanalyst and the founder of the Slovenian Lacan school, His work's main emphasis is put on psychoanalytically oriented versions of philosophical traditions, psychoanalytically oriented approach to ideological and political phenomenons, as well as psychoanalytical theories of contemporary film and pop culture. Slavoj Zizek is publisher of the German-language Lacan school magazine "Wo es war".