Institute for Accelerating Change (IAC)

Realizing a future of exponential promise

> Two billion years ago our ancestors were microbes; a half-billion years ago, fish; a hundred million years ago, something like mice; ten million years ago, arboreal apes; and a million years ago, proto-humans puzzling out the taming of fire. Our evolutionary lineage is marked by mastery of change. In our time, the pace is quickening.
> —Carl Sagan

Institute for Accelerating Change

IAC is an educational 501(c)(3) nonprofit corporation based in Los Angeles, California. Our mission is to help business and society examine the potential risks and benefits of the accelerating rate of change through our conferences, reading groups, publications, websites, and sense of community.

We explore the accelerating development of special domains in science and technology and examine their impact on business and society. We recognize that humanity's central choice in technology development is not a blind advocacy of acceleration, but a *selective catalysis*. Discovering *which* technologies hold the greatest promise, and selectively advancing them in a beneficial manner, while regulating and delaying destabilizing technologies, is the essence of our individual and social choice.

Brief History In 1999, John Smart began SingularityWatch.com, the first website dedicated to multidisciplinary exploration of accelerating change. In 2002, a group of eight futurists in this community began the Institute for Accelerating Change. Over this time, the IAC community has grown to 1,500 individuals who receive our newsletter, *Accelerating Times*, and several hundred members who attend our monthly reading group salons (San Mateo/Northern California and Santa Monica/Southern California).

Executive Team/Board John Smart (Founder and President), Tyler Emerson (Vice-President), Regina Pancake (COO and Treasurer), Randy Davidson (Secretary), Troy Gardner (CTO), Mark Finnern (Director), Sandra Russell (Director), and Curt Steindler (Director, Legal Counsel).

Associate Members Alexis Baker, Elaine Baran, Joe Beachy, Tom Bresnahan, David Carroll, Jamais Cascio, Christian Colquhoun, John Davis, Norman Gilmore, Ben Goertzel, Erik Haraldsted, Steve Harris, Tanya Jones, Scott Lemon, Karl Martin, Milena Petrova, Wayne Radinsky, John Robb, Marlon Rojas, Dann Sheridan, Chris Smith, Rion L. Snow, Mike Treder, Brannon Wright, and Andrew Zolli.

Advisory Board (Partial List)

Walter Truett Anderson, Author of *All Connected Now*
Pierre Baldi, Author of *The Shattered Self*, other works
Greg Bear, Author of *Darwin's Children*, other works
David Blumberg, Managing Director, Blumberg Capital
James Hughes, Secretary, WTA, Author of *Cyborg Democracy*
Steve Jurvetson, Managing Director, Draper Fisher Jurvetson
Ray Kurzweil, Founder & CEO, Kurzweil Technologies
Peter Russell, Author of *The Global Brain*, other works
Steve Waite, CKO, TheInfoPro
Wayne Williams, CTO, Embarcadero Technologies

Mailing Address IAC, 11505 W. Jefferson Blvd., Culver City, CA 90230

Contact mail@accelerating.org ◆ (310) 398-1934 ◆ (310) 398-3454 (fax)

For More Information www.accelerating.org/actionitems.html

IAC Overview

- We help people **understand**, **selectively predict**, and **guide** accelerating developments in science and technology, and investigate their impact on business and society.
- We focus on **developmental future studies**, i.e., we analyze *highly probable* science and technology developments, and explore the available choices to increase their benefits while decreasing their risks.
- We educate people on the impact of converging technologies (biotech, infotech, nanotech, neurotech), the causes of the accelerating pace of change, and the differences between **evolutionary** (unpredictable, unique) and **developmental** (predictable, convergent) technological change.
- We advance the world's attention on these central issues by networking considerate thinkers and organizing their literature and data.
- We help individuals realize (i.e., discover and intelligently choose) a future of '**exponential promise**' (i.e., greater opportunities and benefits because of exponential growth in knowledge and technology).
- We promote activism to increase scientific literacy and foresight, technological innovation, economic interdependence, responsible globalization, social unity, self-empowerment, accelerating compassion, and other **humanist priorities** in guiding accelerating change.
- We produce **SingularityWatch.com**, our web site with introductory resources on these topics.
- We host two monthly salons, **LA Futurists** (Santa Monica) and **Bay Area Futurists** (San Mateo).
- We produce the **Accelerating Change Conference (ACC2003)**, the world's first annual forum to explore science, technology, business, and humanist issues regarding the accelerating rate of change.
- We host **Fusion**, our annual goalsetting, brainstorming, and networking retreat.
- We publish ***Accelerating Times***, our free newsletter, and produce media (audio, film, web content, presentations, publications, and events) through our subgroup, **Accelerating Productions (AP)**.
- We analyze potential risks and opportunities of technology's acceleration through our **Foundation for Research in Accelerating Change (FRAC)**. An important goal of our foundation is to create or affiliate with an institution where certificate courses and M.S. programs are offered for this subject.

What is Accelerating Change? In both universal and human history, there is a special subset of events that have consistently increased their speed and efficiency of change. Accelerating systems are regularly able to accomplish more with fewer resources. As a result, they continually avoid the limits to growth that affect most systems in the environment. For example, many serious observers now expect the power and 'intelligence' of computer-related industries to continue their extraordinary progress in coming decades. (See "Understanding the Accelerating Rate of Change," Ray Kurzweil and Chris Meyer, 2003.)

What is the Importance of IAC's Mission? Imagine you lived in the year **1800** and could have foreseen the uniquely important future of the steam engine and the railroad. Or in **1900** and could have foreseen the profound future of the internal combustion engine, the mechanical census computer, and electricity. Now, imagine you live around the year **2000** and can foresee the unprecedented future of information technology, artificial intelligence, nanotechnology, and biotechnology. We are dedicated to helping you acquire that humane foresight – the foresight to make significantly better decisions *today* with your limited time, energy, and resources.

PRESS RELEASE

FOR IMMEDIATE RELEASE

CONTACT: Tyler Emerson, Public Relations
(310) 398-1934, tyleremerson(at)accelerating.org

IAC ANNOUNCES CONFERENCE ON THE PHENOMENON OF ACCELERATING CHANGE

LOS ANGELES, CA (July 11, 2003) – The Institute for Accelerating Change (IAC) announces the Accelerating Change Conference (ACC2003): Exploring the Future of Accelerating Change, to be held at Stanford University, September 12-14, 2003. Until July 28th, conference registration is $295 for regular admission or $100 for student admission (thereafter $395 / $150). Express registration is available at http://www.accelerating.org/acc2003/registration.htm.

Ray Kurzweil, featured conference speaker and noted authority on emerging technologies, has observed: "Today, everyone expects continuous technological progress and the social repercussions that follow. But the future will be far more surprising than most observers realize: few have truly internalized the implications of the fact that the rate of change itself is accelerating".

The phenomenon of accelerating change is observed in many complex systems, such as biological organisms, economies, computing systems, and the general process of technological development. Over the course of their development, such systems become radically more efficient and powerful—most famously seen in the history of integrated circuits (ICs), as described by Moore's Law.

Moore's Law observes that transistor density in ICs has doubled every 18 to 24 months since 1964. In the past 40 years, the end of Moore's Law has often been predicted, yet the explosive growth of computing power continues today. Kurzweil proposes that there is a "generalized Moore's Law" (what he calls the 'Law of Accelerating Returns'), not just for the past and present of computing (e.g., vacuum tubes and integrated circuits), but for future computing methods (e.g., carbon nanotubes and optical computing).

The Accelerating Change Conference will offer a range of discussions on the multi-fold implications of the accelerating rate of change. Attendees will seek greater understanding of these profound implications to improve the quality of their decisions in scientific, business, and social arenas.

ACC2003 speakers include Ray Kurzweil (via Teleportec's 3D Telepresence Lectern); venture capitalist Steve Jurvetson of Draper Fisher Jurvetson; K. Eric Drexler, Founder and Chairman of Foresight Institute; Greg Papadopoulos, CTO of Sun Microsystems; Tim O'Reilly, CEO of O'Reilly & Associates; Howard Bloom, author of *Global Brain*; and Robert Wright, author of *Nonzero*.

There will be 24 speakers, with overall participation limited to 300 attendees. This will insure a rich and stimulating range of discussions as we seek to understand:

* What will the world be like if Moore's Law continues for another 30 years?
* How do we move beyond what Kurzweil calls the "intuitive linear" view of the future?
* How do we better recognize highly probable and convergent technological developments, such as social software, speech-driven computing, and nanotechnology, to accelerate their humane benefits?
* How do we see past local evolutionary "noise" to deeper developmental "signal"?

Topics to include:

* Multifold Trends in Accelerating Change
* Nanotechnology and Nanoscience
* Artificial General Intelligence (AGI)
* Venture Capital in a World of Accelerating Change
* The Technological and Developmental Singularity
* Biologically Inspired Computing
* Accelerating Change and World Peace
* The Linguistic User Interface
* Social Software Solutions
* Technology and Interdependence

ACC2003 Media Message

The history of life's development on Earth has apparently been an ever-faster emergence of computational complexity (modeling intelligence) within a very special subset of locally emergent forms. For example, specific cultural advances (language, civil society, law, science) have emerged at an accelerating rate in human history. Over the last millennium the rates of technological innovation and diffusion have also broadly accelerated across our planet as a whole, with increasingly briefer pauses between new phases of acceleration. This accelerating trend in *average* distributed complexity has been apparent even as wars, local catastrophes, and revolutions have caused discontinuities within *specific* civilizations. Finally, our modern computer technology, when considered as one broadly distributed substrate, has been smoothly and continuously doubling in average complexity for the entire twentieth century (e.g., price performance was originally doubling every three years, and has recently been doubling every 12-14 months, by some estimates), again independent of the type of computer (mechanical, relay, vacuum tube, transistor, integrated circuit), of the vicissitudes of individual technology companies, and even of social, political, or economic crisis, such as the Great Depression or our current recession.

Today we are creating a range of successively more miniaturized, resource-efficient architectures, which grow measurably more autonomous (evolutionary, biologically inspired, self-directing, self-monitoring, self-provisioning, self-repairing, self-improving, partially self-replicating) with each new generation. Recently, a breathtaking array of new commercial applications (e.g., electronic design automation software, reverse compilers, self-diagnosing and semi-autonomic systems, innovative machine learning paradigms such as support vector machines, and Google's cluster architecture) have further increased our breathtaking pace of technological change. **Where does this continual acceleration phenomenon come from, where is it going, and what does it mean for the near future of humanity?** ACC2003 is the place where today's leading thinkers explore science, technology, business, and humanist dialogs on these profound topics.