

IEEE presentations to IEEE chapters of James Brakefield & other papers

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Date	For mat	Topic	Aut hor	Nature	Where	Web Link	locac tion	Title	Comments	Abstract
2/24/2025	pptx	uP Arch	JCB	info	C16	https://events.vtools.ieee.org/m/467923	Web page	A Digital Processor of RISC Variety Suitable for Architecture Exploration	Includes slides from earlier 2/16/2016 talk Covers TROC16; 6 attachments	RISC computer architecture of my design in an effort to achieve high code density, deterministic execution and a uniform base for diversity. Architecture provdes for four data sizes and four data types.
2/26/2024	pptx	Niklaus Wirth	JCB	info	C16	https://events.vtools.ieee.org/m/404641	Web page	A retrospective on Niklaus Wirth	Carrol Redford provided Pascal examples	Niklaus Wirth's legacy includes several programming languages, computer workstations and FPGA courseware. Simplicity was his hallmark
11/6/2023	pptx	flt-g-pt	JCB	info	C16	https://events.vtools.ieee.org/m/381287	Web page	Floating-Point Arithmetic and Brakefield's Patent	https://patents.google.com/patent/US5892697A/en	Balanced talk on computer floating-point arithmetic and his often cited patent 4 attachments
2/21/2023	pptx	FPGA ed	JCB	info	C16	https://events.vtools.ieee.org/m/345505	Web page	Progress report and Education Review and update on FPGA Boot Camp grant	Abbreviated slides, full slides at github	A look at more advanced FPGA education: boards, tools and research. Slide deck includes link to \$20 FPGA Kit sildes
3/18/2021	pptx	ICs	JCB	info	LMAG	https://events.vtools.ieee.org/m/263775	Web page	Small Chips and their many Usages	Passed around microscope & card with chips glued on	Talk will cover what's available in "tiny" integrated circuits and other related components: in many cases smaller than a cubic millimeter.
3/16/2021	pptx	ICs	JCB	info	C16	https://events.vtools.ieee.org/m/263773	Web page	Small Chip Landscape	Passed around microscope & card with chips glued on	Talk will cover what's available in "tiny" integrated circuits and other related components: in many cases smaller than a cubic millimeter.
10/20/2020	ppt	Sys Arch	JCB	info	LMAG C16	https://events.vtools.ieee.org/m/241803	Web page	Legacy Updates for Avionics	Work at BAE, neat pictures	Work on RIU, FLR-9 and IPo1553, all used FPGAs
2/19/2020	pptx	gaming	JCB	info	C16	https://events.vtools.ieee.org/m/220917	Web page	Review of the MISTer Gaming Console	Raffled Altera card	MISTer is an open project that aims to recreate various classic computers, game consoles and arcade machines, using modern hardware.
9/17/2019	pptx	flt-g-pt	JCB	info	C16	https://events.vtools.ieee.org/m/203892	Web page	Introduction to Posit™ Arithmetic	Figures and some slides curtesy of John Gustafson	New floating-point format originated by John Gustafson. Posits take, in many cases, half the memory space as IEEE-754
10/19/2018	pptx	uP timeline	JCB	info	LMAG	https://events.vtools.ieee.org/m/178555	Web page	Provisioning a 64-bit computer with 2^64 bytes of virtual memory	Used grain of rice on checker-board story	A light hearted look at processor generations over the years.
5/23/2018	pptx	FPGA	JCB	info	Austin Consult	https://events.vtools.ieee.org/m/173193	Git hub	FPGA Chips: Introduction, History, and Applications	PoK-e-Jo's Smokehouse	30 years of FPGAs & are now into their 3rd generation. A way to study them & their applications is the timeline & their expanding capabilities.
4/17/2018	pptx	uP Arch	JCB	info	C16	https://events.vtools.ieee.org/m/170930	Web page	Soft-Core CPUs An inventory of ~600 designs	https://github.com/jimbrake/cpu_soft_cores	One of the most exciting parts of learning VHDL or Verilog is creating a CPU of your own design.
7/20/2017	pptx	uP ed	JCB	info	LMAG	https://events.vtools.ieee.org/m/46028	Web page	Microprocessor Tools and Kits Suitable for Education	exhibited Raspberry Pi zero and Arduino vehicle	variety exists in the small microprocessor kits targeted towards the "educational" market. Examples of each genre will be shown
6/16/2016	pptx	FPGA	JCB	info	LMAG	https://events.vtools.ieee.org/m/135581	Web page	FPGA chips: Intro, History and Applications	Very dated	30 years of FPGAs & are now into their 3rd generation. A way to study them & their applications is the timeline & their expanding capabilities.
2/16/2016	pptx	FPGA to uP	JCB	info	C16	https://events.vtools.ieee.org/m/38087	Web page	DIY soft-core uP Microprocessor design using an FPGA	Now has correct slides	will cover FPGA resource utilization, instruction set design, data path considerations, getting to "Hello World" & completing the implementation.
3/17/2015	pptx	FPGA	JCB	info	C16	https://events.vtools.ieee.org/m/32967	Web page	Le Grande Tour of FPGA Land	posted 2022 slide deck version, borad prices out of date	a simple introduction to FPGAs, their role, their limitations and promise with some mention of hardware description languages
1/8/2004	pdf	EDA	JCB	info	Austin Consuta		Git hub	Alternate Digital Design Languages		Talk on Confluence language
7/10/2003	pdf	uP Arch	JCB	info	IEEE Austin	https://r5.ieee.org/ctx-cs/event-archives/	Git hub	Six, no! Eight, no! Eleven Memories for Computer Architecture	dull subject	The first six memory mappings are architectural, they are distinct on a logical basis, but can be folded into one or more physical renderings in various ways for cost and performance reasons
3/17/2002	doc	flt-g-pt	JCB	info	C16		Git hub	An Engineer's rework of IEEE-754 Floating-Point		
1/1/2002	doc	flt-g-pt	JCB	info	Austin Consuta		Git hub	An Engineer's rework of IEEE-754 Floating-Point		
3/1/2001	doc	uArch	JCB	note	Open Channel		Git hub	In the Limit		Sharing a 64-bit address space
4/25/1999	doc	flt-g-pt	JCB	info	IEEE Austin		Git hub	The Case for Alt-754 Floating-Point	Presented to IEEE Austin consultants group	The floating-point advocated in this paper, herein called alt-754, was motivated by certain hardware and software complexities of IEEE-754.
6/1/1992			JCB	short paper	Open Channel	https://www.computer.org/csdl/magazine/co/1992/03		Brakefield, J.C. 1992. Distributed virtual society and the economics of sharing. IEEE Computer Magazine, 26(6):104.	paywall	

