

Presentations, papers, reports and one day courses of James Brakefield

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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	Many slides from 2/16/2016 talk Covers TROC16; 6 attachments	RISC computer architecture of my design an effort to achieve high code density, deterministic execution and a uniform base for diversity
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
10/15/2022	pptx	FPGA ed	JCB	FPGA course	St. Marys	https://events.vtools.ieee.org/m/329364	Git hub	Single day Boot camp for Digital Systems Education	Meeting set up by Carol Redfield, both 1st day & 2nd day slides	Conducted over one Saturday at St. Mary's University
3/22/2022	pptx	FPGA ed	JCB	info	C16	https://events.vtools.ieee.org/m/306653	Web page	Economies of Scale for FPGA Education	AKA Low Cost PPGA Boards	idea is to do for FPGAs what Raspberry Pi and Arduino have done for microprocessor education
6/7/2021	text	Sys Arch	JCB	info	note	https://www.embeddedrela	Web page	64-bit embedded computing is here and now	embedded journal blog entry	
3/16/2021	pptx	ICs	JCB	info	LMAG C16	https://events.vtools.ieee.org/m/263773	Web page	Small Chips and their 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.
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.
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		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	La Grande Tour attachment, replaced	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	a simple introduction to FPGAs, their role, their limitations and promise with some mention of hardware description languages
2/22/2014	pdf, xlsx	soft uP	JCB	spread sheet	open cores	https://opencores.org/projects/up_core_list/	Web page	An inventory of soft processor cores. Processor project at www.opencores.org	https://github.com/jimbrake/cpu_soft_cores	An Inventory of mostly open-source Soft Core Processors. Although many have FPGA stats, many do not. Very large spreadsheet
4/8/2005	ISE	uP Arch	JCB	report	open cores	https://opencores.org/projects/lem1_9min	Web page	Logic Emulation Machine Processor project at www.opencores.org & github.com/jimbrake/lem1_9min	Four new variants of LEM1_9 are now implemented:	Small soft core processors that operate on a single bit (or four bits) of data at a time. Can be used for logic simulation, software interrupt handlers, low resource soft-core processing and BCD calculators.

Column B	Date	presentation date or publication date
Column C	Format	powerpoint, PDF, txt, scanned pdf, docx, doc, xlsx, xilinx ISE project
Column D	Topic	one or two words
Column E	Author	JCB: James C. Brakefield, others as listed in comments
Column F	Nature	info (STEM level presentation), course, paper, patent, report
Column G	Where	Where presented, often IEEE Lonestar section at LMAG or Computer chapter
Column H	Web Link	Web page for paper or presentation
Column I	location	Location of slides/paper: listed Web page, Github (github/jimbrake), opencores.org, other
Column J	Title	Web page title and pptx file title may differ
Column K	Comments	Side information
Column L	Abstract	Culled from web page announcement or source file