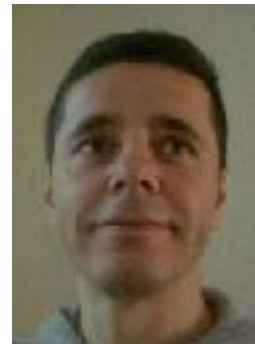




Technical Committee Update



Yunsup Lee and Silviu Chiricescu
`yunsup@sifive.com`
`silviu.chiricescu@baesystems.com`





Immediate Goals



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- To upstream the software development tools (compiler, debugger, etc.)
- To maintain and update a list of hardware implementations of the architecture



Longer Term Goals



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- Provide guidelines for platform integration to avoid fragmentation in the RISC-V software ecosystem
- Setting up program committees for future RISC-V workshops to make it a prominent venue to present in-progress work related to RISC-V



Technical Committee Task Groups



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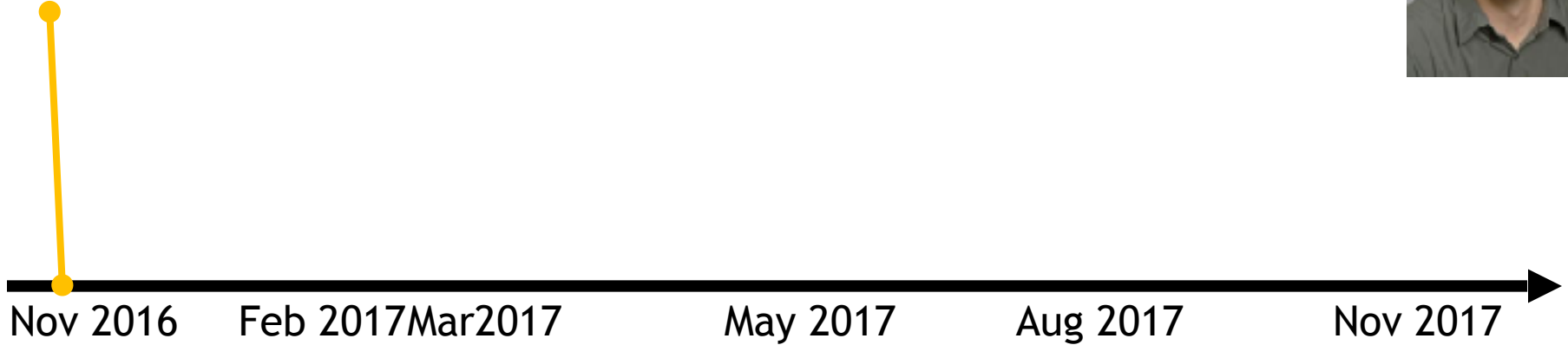
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- Task groups could be added/phased out as needed



Opcode Management TG

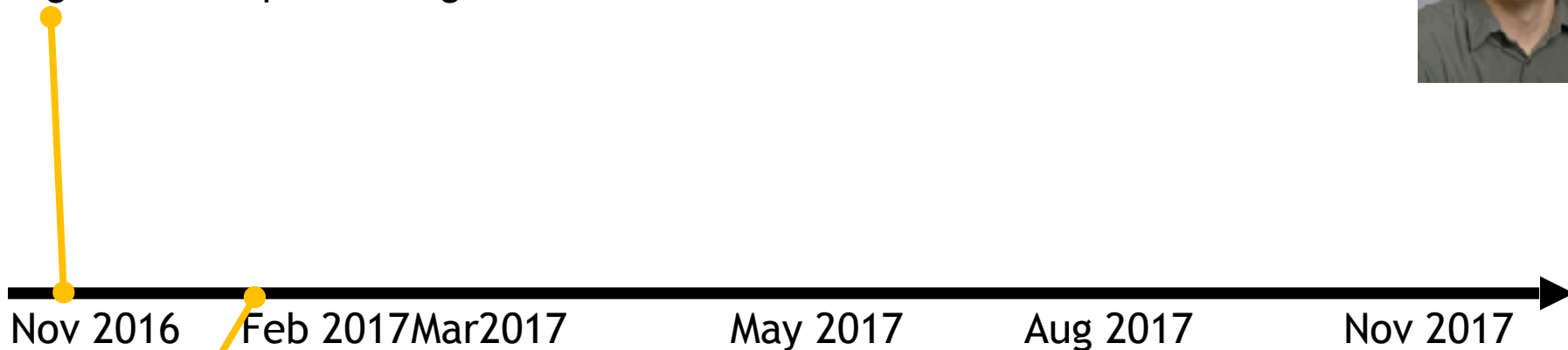


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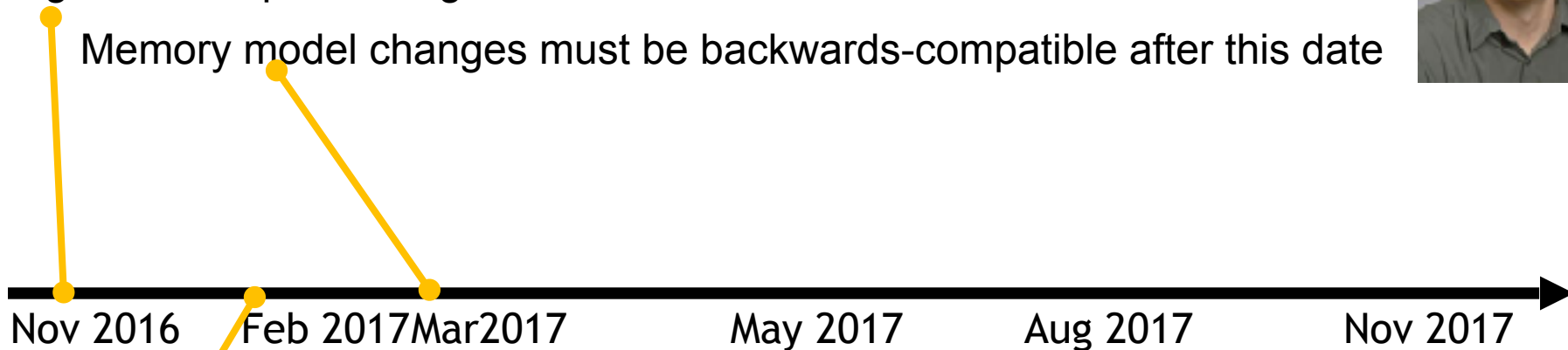
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- * Calling convention fixed and documented
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Nov 2016

Feb 2017

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- * V ratified by Foundation
- * Priv-1.13.0 -> Priv-2.0 ratified?
- * Complete Linux/KVM platform spec agreed, supports other OS (FreeBSD etc.)

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Privileged ISA Spec TG



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- Charter
 - To define and specify a unified RISC-V privileged architecture and hardware platform



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 - To define and specify a unified RISC-V privileged architecture and hardware platform
- Goals
 - Version 1.10 of supervisor-mode and machine-mode architecture proposal by Feb '17
 - no backwards-incompatible changes after this point
 - Complete Unix platform spec proposal, incl. hypervisor support, by Nov '17
 - Ratification end of '17/beginning of '18

Formal Spec TG



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- Just the basic ISA (RV32 and RV64) and the common standard extensions (I, M)
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■ Status

- Basic spec: Models written in L3 (SRI), in BSV (Bluespec), in Coq (MIT)
- Memory model: Two talks this morning



Debug Spec TG



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Security TG





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- Define RISC-V security extension specification including:
 - Secure processing model and necessary ISA support
 - Crypto algorithm instructions (AES, SHA, RSA, ECC, Random)
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- Meetings

- every other Wed from 6-7 PST. Meeting Thursday 1pm.



Software Tool Chain TG



Software Tool Chain TG



- Charter:
 - To define a standard, easy to build and use software toolchain for the RISC-V ecosystem



- Charter:

- To define a standard, easy to build and use software toolchain for the RISC-V ecosystem

- Goals:

- Documenting current SW stack <https://github.com/arunthomas/riscv-sw/wiki>
- Upstreaming (Binutils, GCC, LLVM, etc.)
- QEMU: Update to priv 1.9.1, device support
- Creating an ABI specification
- Continue to push on Linux distribution support (e.g., Debian, Fedora)
- Documentation
- Docker images, cross-toolchain packages in Linux distros



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- Any questions?