

Reiner Hartenstein, [TUK](#), Sept. 2018 **Twin Paradigm Computing**

Climate change could destroy our kids' lives if we don't act now\*. The energy consumption of the internet and other server farms is a main reason. Carbon emissions caused by their electricity consumption is very much higher than global emission from aviation and shipping. That's why we must reinvent computing to move FPGAs into mainstream\*. A look at the topic areas covered by thousands of FPGA-related international conference series (click [here](#)) reveals, that well practicable efficient methodologies to reimplement large systems for FPGA use for massively save energy are not yet available. Programmer education curricula need a twin paradigm approach. Recently this has been recognized by conference organizers. See following picture: derived from a [call for papers](#):



**ICADPRC 2018 : 20th International Conference on Architectures and Design Patterns for Reconfigurable Computing**

Paris, France  
December 27 - 28, 2018

Conference Information	Call for Papers
<a href="#">Aims and Objectives</a>	<p>The <b>ICADPRC 2018</b> : 20th International Conference on Architectures and Design Patterns for Reconfigurable Computing is the premier interdisciplinary platform for the presentation of new advances and research results in the fields of Architectures and Design Patterns for Reconfigurable Computing. The conference will bring together leading academic scientists, researchers and scholars in the domain of interest from around the world. Topics of interest for submission include, but are not limited to:</p> <ul style="list-style-type: none"><li>• Reconfigurable computing</li><li>• Architectures and design methods for reconfigurable computing</li><li>• Design patterns for reconfigurable computing</li><li>• Reconfigurable computing for digital signal processing</li><li>• Theories for reconfigurable computing</li><li>• Tredennick's classification</li><li>• Hartenstein's Xputer</li><li>• High-performance computing</li></ul>
<a href="#">Important Dates</a>	
<a href="#">Call for Papers</a>	
<a href="#">Committee</a>	
<a href="#">Conference Program</a>	



This partial copy from <https://waset.org/conference/2018/12/paris/ICADPRC/call-for-papers> has been manipulated by adding two red arrows

My former group at Kaiserslautern (now I'm kind of "emeritus") started to work on Reconfigurable Computing already in the 80ies. (To see my publications list click [here](#).) For FPGA programming we introduced the "Xputer" as counterpart of John von Neumann's "Computer" paradigm. An Xputer has many data counters (instead of the single program counter of a Computer). Twin paradigm means, that Computers and Xputers are interfaced to each other for cooperation. Intel is selling computers with FPGAs on the same chip. For detailed introduction to very important issues see my more recent paper (click [here](#)). (>[Notiz auf deutsch](#)). To learn more about the von Neumann syndrome click [here](#).

--- For xputers also see [here](#) (look for "Hartenstein's Xputer"):

# ICADPRC 2019 : International Conference on Architectures and Design Patterns for Reconfigurable Computing

Paris, France  
December 30 - 31, 2019



## Conference Information

[Aims and Objectives](#)

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- Hartenstein's Xputer
- High-performance computing
- Partial re-configuration
- Current systems
- Computer emulation
- Rate of reconfiguration
- Host coupling

and [here](#) (look for "Hartenstein's Xputer")::

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