Other

07:30 Breakfast (Workshops)

12:00 Lunch

PH 103N

08:30 **Chris Rackauckas**
Solving Differential Equations in Julia

13:30 **Vijay Ivaturi, Chris Rackauckas**
Pharmaceutical Modeling and Simulation with Pumas

PH 111N

08:30 **Huda Nassar, Jane Herriman**
Excelling at Julia: basics and beyond

13:30 **Kristoffer Carlsson, Fredrik Ekre**
Writing a package — a thorough guide

PH 203N

08:30 **Matt Bauman**
Machine Learning Workshop

13:30 **Bogumił Kamiński**
Handling Data with DataFrames.jl

PH 211N

08:30 **David P. Sanders**
Intermediate Julia for Scientific Computing

13:30 **Matt Bauman, Avik Sengupta**
Parallel Computing Workshop

Tuesday, 23 July

BOF

11:00 **Chris Rackauckas**
Dynamical Modeling in Julia

14:30 **Josh Day**
JuliaDB Code and Chat

15:45 **Viral B. Shah**
Julia and NumFocus, a discussion of how money works

16:35 **Jarrett Revels ...**
Cassette and company — Dynamic compiler passes

Elm A

11:00 **Katharine Hyatt ...**
Intelligent Tensors in Julia

11:30 **Michiel Stock**
A general-purpose toolbox for efficient Kronecker-based learning

11:40 **Jeff Bezanson**
Thread Based Parallelism part 2

11:50 **Jameson Nash**
Thread Based Parallelism part 1

14:30 **Morten Piibeleht**
Generating documentation: under the hood of Documenter.jl

15:00 **Fredrik Ekre**
Literate programming with Literate.jl

15:10 **Dominique Luna**
Formatting Julia

15:45 **Alex Lew**
Cleaning messy data with Julia and Gen

16:15 **Brandon Taylor**
LightQuery.jl

16:45 **Jacob Quinn**
State of the Data: JuliaData

16:55 **Mary McGrath**
Prototyping Visualizations for the Web with Vega and Julia

17:05 **Simon Danisch**
A Showcase for Makie

Elm B

11:00 **Robin Deits**
The Linguistics of Puzzles: Solving Cryptic Crosswords in Julia

11:30 **Jeffrey Sarnoff**
Counting On Floating Point

11:40 **Bogumił Kamiński ...**
Analyzing social networks with SimpleHypergraphs.jl

11:50 **Takuya Kitazawa**
Recommendation.jl: Building Recommender Systems in Julia

14:30 **Tucker McClure**
A New Breed of Vehicle Simulation

15:00 **Andrea Neumayr**
Modia3D: Modeling and Simulation of 3D-Systems in Julia

15:10 **Brian Jackson**
TrajectoryOptimization.jl: A testbed for optimization-based robotic motion planning

15:20 **Sam Claassens ...**
Non-Gaussian State-estimation with JuliaRobotics/Caesar.jl

15:45 **David Widmann**
Solving Delay Differential Equations with Julia

16:15 **Dheepak**
Open Source Power System Production Cost Modeling in Julia

16:45 **Chris Rackauckas**
Scientific AI: Domain Models with Integrated Machine Learning

17:15 **Andrew Rosemberg**
HydroPowerModels.jl: A Julia/JuMP Package for Hydrothermal economic dispatch Optimization

17:25 **Michel Schanen**
Modeling in Julia at Exascale for Power Grids

NS Room 130

08:30 **JuliaCon Committee**
Opening Remarks

08:40 **Professor Madeleine Udell**
Keynote: Professor Madeleine Udell

09:30 **Kristoffer Carlsson ...**
Debugging code with JuliaInterpreter

10:00 **Paul Petersen**

10:05 **Viral B. Shah**
Julia Survey Results

10:15 **Nathan Daly**

13:30 **Dr Cynthia J Musante**
Keynote: Dr Cynthia J Musante

Other

07:30 Breakfast

10:20 Morning break

12:05 Lunch

15:30 Short break

19:00 Conference Dinner and Inner Harbor Cruise

Room 349

11:00 **Fredrik Ekre**
Pkg, Project.toml, Manifest.toml and Environments

11:30 **Rory Finnegan**
FilePaths: File system abstractions and why we need them

11:40 **Jay Dweck**
Ultimate Datetime

11:50 **Ahan Sengupta**
Smart House with JuliaBerry

14:30 **Anthony Blaom**
MLJ -Machine Learning in Julia

15:00 **Valentin Mari ...**
Merging machine learning and econometric algorithms to improve feature selection with Julia

15:10 **Jun Tian**
Let's Play Hanabi!

15:20 **Paulito Palmes**
TSML (Time Series Machine Learning)

15:45 **Ludovic Räss**
Porting a massively parallel Multi-GPU application to Julia: a 3-D nonlinear multi-physics flow solver

16:15 **Keno Fischer ...**
XLA.jl: Julia on TPUs

16:45 **James Bradbury**
Targeting Accelerators with MLIR.jl

16:55 **Nicolau Leal Werneck**
SIMD and cache-aware sorting with ChipSort.jl

17:05 **Ranjan Anantharaman ...**
Generic Sparse Data Structures on GPUs

17:15 **Rohan McLure**
Array Data Distribution with ArrayChannels.jl

17:25 **Tom Kwong**
High-Performance Portfolio Risk Aggregation

julia

JuliaCon 2019

Wednesday, 24 July

BOF

11:00 **Clark Evans**
Sustainable Development and Open Source Monetization

14:30 **Nathan Daly ...**
Diversity and Inclusion in Julia Community

15:45 **Curtis Vogt**
Julia In Production

16:45 **Valentin Churavy ...**
JuliaGPU

Elm A

11:00 **Dheepak**
Why writing C interfaces in Julia is so easy*

11:30 **Aaron Christianson**
Backticks and the Glorious Command Literal

11:40 **Patrick Kofod Mogensen**
Re-designing Optim

11:50 **Dai ZJ**
Towards Faster Sorting and Group-by operations

14:30 **Christine R Herlihy ...**
SemanticModels.jl: not just another modeling framework

15:00 **Randy Zwitch**
OmniSci.jl: Bringing the open-source, GPU-accelerated relational database to Julia

15:45 **Tillmann Weisser ...**
Polynomial and Moment Optimization in Julia and JuMP

Elm B

11:00 **Jeff Mills**
Probabilistic Biostatistics: Adventures with Julia from Code to Clinic

11:30 **Virginia Spanoudaki**
Slow images, fast numbers: Using Julia in biomedical imaging and beyond

11:40 **Amita Varma**
Brain Tumour Classification with Julia

11:50 **Swakkhar Shatabda ...**
Mining Imbalanced Big Data with Julia

14:30 **Clark C. Evans**
DataKnots.jl -an extensible, practical and coherent algebra of query combinators

15:00 **David Anthoff**
Queryverse -Under the Hood

15:45 **Elwin van 't Wout ...**
Raising Diversity & Inclusion among Julia users

NS Room 130

08:40 **Professor Steven G Johnson**
Keynote: Professor Steven G Johnson

09:30 **Jiahao Chen**

09:45 **Stefan Karpinski**

09:50 **Seth Bromberger**
Using Julia in Secure Environments

13:30 **Arch D. Robison**
Keynote: Arch D. Robison

Other

07:30 Breakfast

10:10 Poster Session

12:00 Lunch

15:30 Short break

Room 349

11:00 **Roger Luo**
Yao.jl: Extensible, Efficient Quantum Algorithm Design for Humans.

11:30 **David P. Sanders**
Guaranteed constrained and unconstrained global optimisation in Julia

11:40 **Michael Droettboom**
Pyodide: The scientific Python stack compiled to WebAssembly

11:50 **William L Fredericks ...**
Julia for Battery Model Parameter Estimation

14:30 **Rebecca Sarfati**
Heterogeneous Agent Dynamic Stochastic General Equilibrium (DSGE) Models in Julia at the Federal Reserve Bank of New York

15:00 **Ethan Matlin**
“Online” Estimation of Macroeconomic Models

15:45 **Mike Innes**
Differentiate All The Things!

16:15 **Avik Pal**
Differentiable Rendering and its Applications in Deep Learning

16:25 **Jesse Bettencourt**
Neural Ordinary Differential Equations with DiffEqFlux

16:35 **Elisabeth Roesch**
Fitting Neural Ordinary Differential Equations with DiffeqFlux.jl

17:05 **Ramchandran Muthukumar**
Randomized Sketching for Approximate Gradients : Applications to PDE Constrained Optimization and Backpropagation.

17:15 **Filippo Vicentini**
Neural Network states and unsupervised learning for Open Quantum Systems

17:25 **Dhairya Gandhi**
Machine Learning for Social Good

julia

JuliaCon 2019

Thursday, 25 July

BOF

11:00 **Andreas Noack …**
Performant parallelism with productivity and portability.

14:30 **Vijay Ivaturi**
Julia in Healthcare

15:45 **Stefan Karpinski**
Package Management BoF

16:45 **Mosè Giordano**
Julia in Astronomy

Elm A

11:00 **Shashi Gowda**
Julia + JavaScript = <3

11:30 **Mohammed El-Beltagy …**
Julia web servers deployment

11:40 **Bogumil Kamiński**
A case study of migrating Timelineapp.co to the Julia language

11:50 **Renee Spear**
The Julia Language 1.0 Ephemeris and Physical Constants Reader for Solar System Bodies

14:30 **Nathan Daly**
If Runtime isn't Funtime: Controlling Compile-time Execution

15:00 **Takafumi Arakaki**
Transducers: data-oriented abstraction for sequential and parallel algorithms on containers

15:45 **Yingbo Ma**
Efficient Stiff Ordinary Differential Equation Solvers for Quantitative Systems Pharmacology (QsP)

16:15 **Vaibhav Dixit**
Simulation and estimation of Nonlinear Mixed Effects Models with PuMaS.jl

16:45 **Bram De Jaegher**
An advanced electrodialysis process model in the Julia ecosystem

16:55 **Shubham Maddhashiya**
IVIVC.jl: In vitro – in vivo correlation module as part of an integrated pharmaceutical modeling and simulation platform

17:05 **Vasco Verissimo …**
GigaSOM.jl: Huge-scale, high-performance flow cytometry clustering in Julia

17:15 **benjamin chu**
MendelIHT.jl: How to fit Generalized Linear Models for High Dimensional Genetics (GWAS) Data

17:25 **Alec Bills**
Electrifying Transportation with Julia

Elm B

11:00 **David P. Sanders**
Interval methods for scientific computing in Julia

11:30 **Daniel Bachrathy**
Implicit Geometry with Multi-Dimensional Bisection Method

11:40 **Alberto Paoluzzi**
Computational topology and Boolean operations with Julia sparse arrays

11:50 **Michael Reed**
Geometric algebra in Julia with Grassmann.jl

14:30 **David Anthoff …**
Mimi.jl – Next Generation Climate Economics Modeling

15:00 **Charlie Kawczynski …**
The Climate Machine: A New Earth System Model in Julia

15:45 **Harrison Grodin**
Symbolic Manipulation in Julia

16:15 **Lyndon White (@oxinabox)**
Building a Debugger with Cassette

16:45 **Valentin Churavy**
Static walks through dynamic programs — a conversation with type-inference.

16:55 **Valentin Churavy**
Concolic Fuzzing — Or how to run a theorem prover on your Julia code

17:05 **Tim Holy**
Analyzing and updating code with JuliaInterpreter and Revise

17:15 **Kristoffer Carlsson**
TimerOutputs.jl -a cheap and cheerful instrumenting profiler

17:25 **Simon Danisch**
PackageCompiler

NS Room 130

08:40 **Professor Heather Miller**
Keynote: Professor Heather Miller

09:30 **Jeff Bezanson**
What's Bad About Julia

10:00 **Vijay Ivaturi**

13:30 **Dr Steven Lee**
Keynote: Dr Steven Lee

Other

07:30 Breakfast

10:10 Poster Session

12:00 Lunch

15:30 Short break

Room 349

11:00 **Stefan Karpinski**
The Unreasonable Effectiveness of Multiple Dispatch

11:30 **Joshua Ballanco**
Julia's Killer App(s): Implementing State Machines Simply using Multiple Dispatch

11:40 **JinGuo Liu**
Differential Programming Tensor Networks

11:50 **Roger Luo**
JuliaCN: A community driven localization group for Julia in China

14:30 **Scott Haney**
Writing maintainable Julia code

15:00 **Tim Wheeler**
How We Wrote a Textbook using Julia

15:45 **Cameron Pfiffer**
Turing: Probabalistic Programming in Julia

16:15 **Will Tebbutt**
Gaussian Process Probabilistic Programming with Stheno.jl

16:45 **Chad Scherrer**
Soss.jl: Probabilistic Metaprogramming in Julia

17:15 **Marco Cusumano-Towner**
Gen: a general-purpose probabilistic programming system with programmable inference built on Julia

17:25 **Cédric St-Jean-Leblanc**
A probabilistic programming language for switching Kalman filters

julia

JuliaCon 2019