CVM 2019
Computational Visual Media Conference
April 24~26, 2019
University of Bath, Bath, UK

Computational Visual Media 2019 Programme

🔵 Day 1: Wednesday 24 April, 2019

08:45 - 09:00   Welcome and Opening Remarks

09:00 - 09:45   Invited Talk: Niloy J. Mitra (University College London, UK)
        CreativeAI: Data-driven Editable 3D Content Creation

Session 1: Rendering & Inverse Rendering (Session Chair: David Mould)

09:45 - 10:10   Yulin Liang, Beibei Wang, Lu Wang, Nicolas Holzschuch
        Fast Computation of Single Scattering in Participating Media with Refractive Boundaries using Frequency Analysis

10:10 - 10:35   Xin Yang, Wenbo Hu, Dawei Wang, Lijing Zhao, Baocai Yin, Qiang Zhang, Xiaopeng Wei, Hongbo Fu
        DEMC: A Deep Dual-Encoder Network for Denoising Monte Carlo Rendering

10:35 - 11:00   Jiri Filip, Radomir Vavra
        Image-based Appearance Acquisition of Effect Coatings

11:00 - 11:20   **Coffee break**

Session 2: Packing and Mosaic (Session Chair: Yu-Kun Lai)

11:20 - 11:45   Cong Feng, Minglun Gong, Oliver Deussen, Hui Huang
        Treemapping via Balanced Partitioning

11:45 - 12:10   Lars Doyle, Forest Anderson, Ehren Choy, David Mould
        Automated Pebble Mosaic Stylization of Images

12:10 - 12:35   Pengfei Xu, Jianqiang Ding, Hao Zhang, Hui Huang
        Discernible Image Mosaic with Edge-Aware Adaptive Tiles

12:35 - 14:00   **Lunch**

Session 3: Geometry Processing (Session Chair: Ralph Martin)

14:00 - 14:25   Wensong Wang, Zhen Fang, Shiqing Xin, Ying He, Yuanfeng Zhou, Shuangmin Chen
        Tracing High-quality Isolines for Discrete Geodesic Distance Fields

14:25 - 14:50   Jun-Xiong Cai, Tai-Jiang Mu, Yu-Kun Lai, Shi-Min Hu
        Deep Point-based Scene Labeling with Depth Mapping and Geometric Patch Feature Encoding

14:50 - 15:15	Haiyue Fang, Xiaogang Wang, Bin Zhou, Zheyuan Cai, Yahao Shi, Xun Sun, Shilin Wu
	Learning Semantic Abstraction of Shape via 3D Region of Interest
15:15 - 15:40	Yujie Yuan, Yu-Kun Lai, Tong Wu, Shihong Xia, Lin Gao
	Data-Driven Weight Optimization for Real-Time Mesh Deformation

15:40 - 16:00	**Coffee break**

16:00 - 17:00	**Poster Session**

Qing Ran, Yongliang Yang, Jieqing Feng

High-precision Human Body Acquisition via Multi-view Binocular Stereopsis

Xiao-Chang Liu, Shao-Ping Lu, Jie Wang, Ming-Ming Cheng

DeepBrush: CNN-based Structured Style Transfer on 2D/3D Surfaces

Biyao Shao, Feng Xu, Hao Zhao, Chenggang Yan

3D Room Layout Estimation from a Single RGB Image

Shan Luo, Jieqing Feng

Symmetry-aware Kinematic Skeleton Extraction of a 3D Human Body Model

Lili Wang, Xinglun Liang, Jianjun Chen

Generating Light Sources for 3D Building with a Single Night Photo

Da Chen, Luca Benedetti, Dmitry Kit, Wenbin Li, Peter Hall

NPD: The Natural Phenomena Dataset

Yuxi Jin, Ping Li, Wenxiao Wang, Bin Sheng, Enhua Wu

Cross-Scale Based 3D Effects Pencil Drawing Image Generation

Xiangyang Su, Linjing Lai, Zhongchang Sun, Lei Zhang, Hua Huang

Infrared And Visible Image Fusion Guided by Hierarchical Saliency Structure

Paul Maximilian Bittner, Jan-Philipp Tauscher, Steve Grogorick, Marcus Magnor

Evaluation of Optimised Centres of Rotation Skinning

Xiaohan Liu, Baorong Yang, Junfeng Yao, Lei Lan, Liling Zheng

Sketch-based 3D Shape Retrieval via Convolutional Neural Networks Using an Angle Matrix Feature as Shape Descriptor

Congyue Deng, Jiahui Huang, Yongliang Yang, Shi-Min Hu

Interactive Modeling of Lofting Shapes from a Single Image

Zhifeng Xie, Shuhan Zhang, Jiaping Wu

CNN-based Detection, Recognition, and Regularization for Cigarette Code

19:00 - 21:00	**Drink Reception at [The Roman Baths](#)**

Day 2: Thursday 25 April, 2019

09:00 - 09:45	Invited Talk: Marie-Paul Cani (Ecole Polytechnique, France)
	Expressive Modelling of Animated Virtual Worlds

Session 4: Character Animation and Poses (Session Chair: Lin Gao)

09:45 - 10:10   Yilong Liu, Chengwei Zheng, Feng Xu, Xin Tong, Baining Guo
Data-Driven 3D Neck Modeling and Animation

10:10 - 10:35   Shaojun Bian, Zhigang Deng, Ehtzaz Chaudhry, Lihua You, Xiaosong Yang, Lei Guo, Hassan Ugail, Xiaogang Jin, Zhidong Xiao, Jian Jun Zhang
Efficient and Realistic Character Animation through Analytical Physics-based Skin Deformation

10:35 - 11:00   Shuai Li, Zheng Fang, Wenfeng Song, Aimin Hao, Hong Qin
Bidirectional Optimization Coupled Lightweight Networks for Efficient and Robust Multi-Person Pose Estimation

11:00 - 11:20   **Coffee break**

Session 5: Segmentation & Reconstruction (Session Chair: Lei Zhang)

11:20 - 11:45   Jiahui Huang, Jun Gao, Vignesh Ganapathi-Subramanian, Hao Su, Yin Liu, Chengcheng Tang, Leonidas Guibas
DeepPrimitive: Image Decomposition by Layered Primitive Detection

11:45 - 12:10   Salma Alqazzaz, Sun Xianfang, Xin Yang, Len Nokes
Automated Brain Tumor Segmentation on Multi-modal MR Image Using SegNet

12:10 - 12:35   Bo Ren, Jiacheng Wu, Yalei Lyu, Ming-Ming Cheng, Shaoping Lu
Geometry-aware ICP for Scene Reconstruction from RGB-D Camera

12:35 - 14:00   **Lunch**

Session 6: Recognition (Session Chair: Feng Xu)

14:00 - 14:25   Liang Han, Pin Tao, Ralph Martin
Livestock Detection in Aerial Images using a Fully Convolutional Network

14:25 - 14:50   Tailing Yuan, Zhe Zhu, Kun Xu, Chengjun Li, Taijiang Mu, Shi-Min Hu
A Large Chinese Text Dataset in the Wild

14:50 - 15:15   Min Liu, Yifei Shi, Lintao Zheng, Kai Xu, Hui Huang, Dinesh Manocha
Recurrent 3D Attentional Networks for End-to-End Active Object Recognition

15:15 - 15:40   Yizhi Song, Ruochen Fan, Sharon Huang, Zhe Zhu, Ruofeng Tong
A Three-Stage Real-time Detector for Traffic Signs in Large Panoramas

15:40 - 16:00   **Coffee break**

Session 7: Image Synthesis (Session Chair: Christian Richardt)

16:00 - 16:25   Shu-Yang Zhang, Run-Ze Liang, Miao Wang
ShadowGAN: Shadow Synthesis for Virtual Objects with Conditional Adversarial Networks

16:25 - 16:50   Xiaochuan Wang, Xiaohui Liang, Bailin Yang, Frederick W.B. Li

No-reference Synthesized Image Quality Assessment with Convolutional Neural Network and Local Image Saliency

16:50 - 17:15   Na Ding, Yepeng Liu, Linwei Fan, Caiming Zhang

Single Image Super-Resolution via Dynamic Lightweight Database with Local-Feature Based Interpolation

19:00 - 21:00   **Banquet at [Bath Function Rooms](#)**

🌐 Day 3: Friday 26 April, 2019

09:00 - 09:45   Invited Talk: Jue Wang (Megvii/Face++ Research, USA)

A New Chapter of Mobile Photography

Session 8: 3D Printing (Session Chair: Tianjia Shao)

09:45 - 10:10   Yisong Gao, Lifang Wu, Dongming Yan, Liangliang Nan

Near Support-free Multi-directional 3D Printing via Global-optimal Decomposition

10:10 - 10:35   Minghai Chen, Fan Xu, Lin Lu

Fabricable Patterns Collage along a Given Boundary

10:35 - 10:55   **Coffee break**

Session 9: Image Processing (Session Chair: Miao Wang)

10:55 - 11:20   Gerben Jan Hettinga, Rowan van Beckhoven, Jiri Kosinka

Noisy Gradient Meshes: Augmenting Gradient Meshes with Procedural Noise

11:20 - 11:45   Mengke Yuan, Longquan Dai, Dongming Yan, Li-Qiang Zhang, Jun Xiao, Xiaopeng Zhang

Fast and Error-Bounded Space-Variant Bilateral Filtering

11:45 - 12:10   Dewang Li, Linjing Lai, Hua Huang

Defocus Hyperspectral Image Deblurring With Adaptive Reference Image And Scale Map

12:10 - 12:25   **Closing Session**

12:25 - 13:30   **Lunch**

CVM 2019 Conference Venue:

[CB 2.6](#), [The Chancellor's Building](#), [University of Bath](#), Bath BA2 7JP

Conference Venue **Wi-Fi** Connection:
- Please select 'eduroam' if you have account and password.
- Otherwise please connect 'Wifi Guest' by 1) open the Wi-Fi settings on your device, 2) select 'WiFi Guest' from the list, 3) once you are connected, open your web browser and refresh the page (your browser may open automatically), and 4) you will be taken to The Cloud website, where you can log in or register a new account.
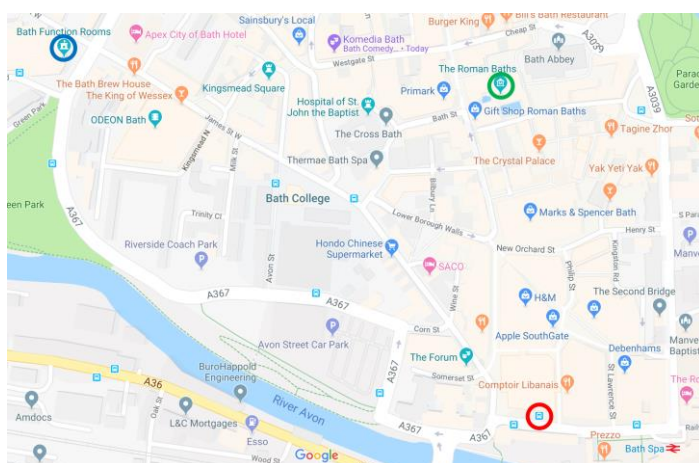
Event Locations:

⬤ **CVM 2019 Conference:** CB 2.6, The Chancellor's Building, University of Bath, Bath BA2 7JP

⬤ **Registration Desk:** Level 2 Foyer outside CB 2.6 (opens from 8am Wednesday 24/04/2019).

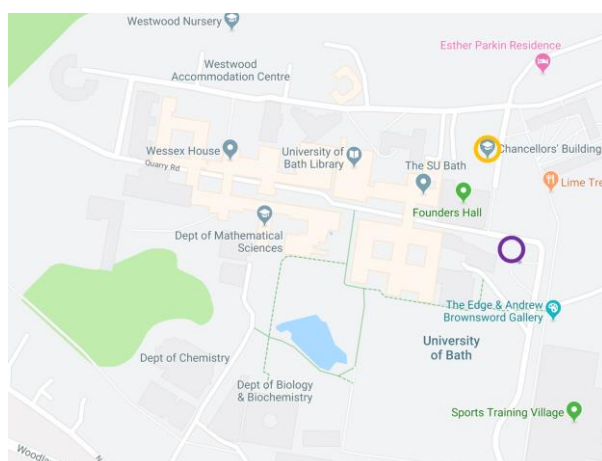⬤ **Lunches and Coffee Break:** Level 2 Foyer outside CB 2.6.

⬤ **Conference Drink Reception:** [The Roman Baths](#), Abbey Church Yard, Bath BA1 1LZ

⬤ **Conference Banquet:** [Bath Function Rooms](#), Green Park Station, Bath BA1 1JB

Bath City Center

⬤ U1 Dorchester Street, BA1 1SS

University of Bath, Claverton Down Campus

⬤ U1 UoBath Arrivals Square, BA2 7JP