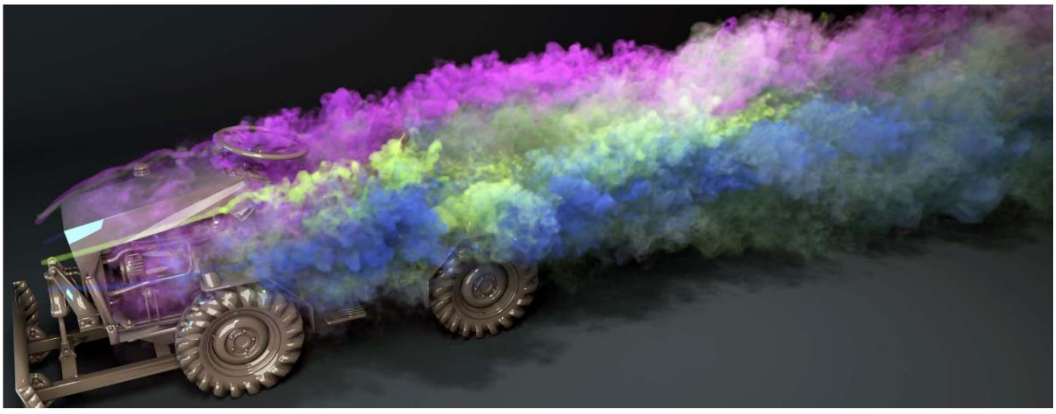
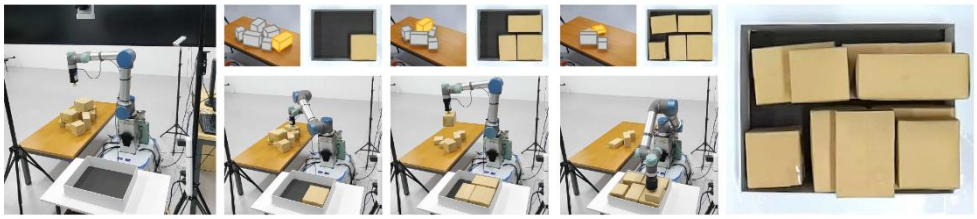
ASIAGRAPHICS
Asian Association for Computer Graphics and Interactive Technology

Newsletter

Issue 8, October 2023





www.asiagraphics.org

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In Memory of Prof. Sung Yong Shin, 2019 Asiagraphics Life-Time Achievement Awardee

Professor
Sung Yong Shin
(1947. 9. 1. ~2023. 9. 25.)

Prof. Sung Yong Shin, an Emeritus Professor of Computer Science at Korea Advanced Institute of Science and Technology (KAIST), passed away recently.

Prof. Shin earned his Ph.D. in Industrial Engineering at the University of Michigan in 1986. He joined the faculty of KAIST in 1987 and worked there for 26 years as a professor until 2013. After his retirement from KAIST, he visited Zhejiang University (2013~2014) and then worked at Handong University as a chair professor (2014~2022). During his sabbaticals, he visited Max-Planck-Institut für Informatik (2005), University of Tokyo (2005), and George Washington University (1996~1997).

Prof. Shin was a Pioneer in Asian graphics community. He co-founded Pacific Graphics in 1993, which is now well-established as the most influential graphics conference in the Asia/Pacific region. With Prof. Tosiyasu L. Kunii, he was an editor of the first Pacific Graphics conference proceedings. He also founded Korea Computer Graphics Society (KCGS) in 1993, which has evolved to become a large research community on graphics in Korea. He played a critical role and showed the leadership in the graphics community in Korea, Asia, and the world.

Prof. Shin was an accomplished Researcher. He made outstanding research contributions in Computer Animation, Image Processing, and Computational Geometry. Of the many exciting contributions, he began to investigate the motion capture techniques as a means to produce character animation since 1995. He led research projects that explored interactive motion editing, computer puppetry, rhythmic motion synthesis, locomotion generation and planning, etc. His efforts contributed to the emergence of a new research field, data-driven animation back in the early 2000s. In 2019, he got the Asiagraphics Life-Time Achievement Award.

In Memory of Prof. Sung Yong Shin, 2019 Asiagraphics Life-Time Achievement Awardee

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(cont'd...)

Prof. Shin was an Educator. He educated and graduated 32 PhD and 33 Master students. Some of them are working as professors at universities in Korea and US, including Seoul National University, POSTECH, University of Missouri–St. Louis. Some others are working as group leaders in global companies, like Samsung and Google. Some graduates also launched startup companies successfully. Prof. Shin was a great teacher of all his students and great mentor of many young researchers.

Prof. Shin was a Pragmatist. He contributed to the industry by transferring his technologies. Especially, his character animation technology was used for creating a virtual character, PangPang, which appeared regularly in a TV show for children in 2000. Another virtual character he created, Aliang, has appeared in National Election Broadcast to demonstrate the advance of computer graphics technology.

In recent years, Prof. Shin became a Poet. He often posted poems with fitting photos on Facebook. Many people appreciated and liked his poems. He has more than 4,000 friends on Facebook.

Last, but not least, Prof. Shin was a Colleague and Friend of many international researchers. When the news of his passing was delivered, colleagues mentioned his leadership in the community, research achievements, and smiley face.

Sadly, Prof. Shin has now passed away. After suffering from an illness for a prolonged period, he regrettably finished his long journey on September 25th, Monday, 2023. In the Opening Session of Pacific Graphics 2023, there was a memorial moment for Prof. Shin to express the deepest condolences to him.

May he rest in peace.

AG Awards

Life-Time Achievement Award

This award will be given every second year to an exceptionally distinguished scientist in the area of Computer Graphics. The awardee should be a renowned personality who has made significant scientific contributions over a long period of their scientific career and who has also been instrumental in promoting the field as a scientific discipline by creating international visibility through the organization of conferences or journals.

Outstanding Technical Contributions Award

This award is to recognize an individual for an outstanding technical achievement in computer graphics, made in an Asiagraphics country, and will be given at most one per year.

Young Researcher Award

This award is to recognize young researchers early on in their career (not longer than 6 years after obtaining the PhD degree), who have made a recently, notable contribution to the field of computer graphics and interactive techniques, in an Asiagraphics country, and will be given at most one per year.

2023 Outstanding Technical Contributions Awardee

The 2023 Asiagraphics (AG) Outstanding Technical Contributions Award was presented to Professor Ariel Shamir from Reichman University, Israel. The winner of this award was selected by the award jury chaired by Prof. Ming Lin (UMD College Park) and Prof. Leif Kobbelt (RWTH Aachen).

Ariel Shamir is a professor at the Efi Arazi school of Computer Science at Reichman University, Israel. He received a B.Sc. and M.Sc. degrees in math and computer science Cum Laude from the Hebrew University in Jerusalem, and a Ph.D. in computer science in 2000. After that, he spent two years as a postdoctoral fellow at the computational visualization center at the University of Texas in Austin. His research interests include geometric modeling, computer graphics, fabrication, visualization, and machine learning.

Some of his most notable works include "seam-carving for image resizing", which was included in the list of seminal graphics papers of the last 25 years, "sketch-to-photo" that presented a method to convert sketches to photographs before the deep learning era, "3Sweep" that provided a tool to convert images of objects to 3D models using simple sweep gestures interface. More recently, a best papers award was presented in SIGGRAPH 2022 to CLIPasso, a method that allows converting images to sketches in multiple level of abstractions, and a best papers award honorable mention in SIGGRAPH 2023 for Word-as-Image, a method that allows automatic creation of semantic illustrations of words while keeping their shape, typographic-style and legibility.

In all these examples, Ariel has managed to demonstrate highly creative works, which are many times surprising – opening up new research directions and inspiring follow-up works. He has an H-Index of 57 in google scholar, with more than 14,000 citations to date. His work often focuses on developing algorithms and techniques to manipulate and analyze both images and video as well as geometric data, which has applications in various industries including entertainment, design, and manufacturing.

Ariel has published close to 200 research papers and articles in reputable conferences and journals in the field such as ACM SIGGRAPH, ACM SIGGRAPH-ASIA, CVPR, ICCV, Eurographics, ACM TOG , IEEE TVCG, Computer Graphics Forum and CVMJ.

Ariel is also known as a leader in the field for his ability to foster fruitful collaborations with other research groups worldwide, many of which are in the Asia area including with China, Korea and Japan. He has served or is serving as an Associate Editor of ACM TOG, IEEE TVCG, CVMJ, Computers & Graphics, and Graphical Models. He is also serving now as the papers-chair for SIGGRAPH-ASIA 2024 to be held in Tokyo, Japan.

2023 Young Researcher Awardee

The 2023 Asiagraphics (AG) Young Researcher Award was presented to Dr. Peng-Shuai Wang from Peking University, China. The winner of this award was selected by the award jury chaired by Prof. Ming Lin (UMD College Park) and Prof. Leif Kobbelt (RWTH Aachen).

Dr. Peng-Shuai Wang is a tenure-track Assistant Professor at Peking University. Before joining Peking University in 2022, he was a senior researcher in Microsoft Research Asia. He got Ph.D. degree from the Institute for Advanced Study at Tsinghua University in 2018, under the supervision of Dr. Baining Guo. Dr. Wang has done a series of remarkable research works on fundamental network structures and algorithms for 3D shape analysis and generation, which significantly advance the state-of-the-art of 3D geometric deep learning and make impactful contributions to both computer graphics and computer vision.

Dr. Wang's research on Octree-based Sparse Convolutional Networks (O-CNN, SIGGRAPH 2017) lays a solid foundation for learning-based 3D shape analysis and generation and attracts considerable attention in the research field. O-CNN significantly reduces the computational and memory complexity of 3D deep learning from O(N^3) to O(N^2) and has been widely used in various 3D learning tasks, including 3D classification, segmentation, and detection. His work on Adaptive O-CNN (SIGGRAPH Asia 2018) also greatly improves the state-of-the-art for shape representation and generation.

To generate continuous surfaces and further improve the reconstruction of geometric details, Dr. Wang proposed Dual Octree Graph Networks (SIGGRAPH 2022) that offers an adaptive deep representation of 3D volumetric fields and associated graph neural networks, which greatly improves the efficiency and performance for shape generation and reconstruction. As transformer-based backbone networks have been widely used in 2D vision and NLP fields, Dr. Wang recently proposed OctFormer (SIGGRAPH 2023) that is not only significantly faster than previous point cloud transformers, but also achieves state-of-the-art performances in various 3D understanding tasks.

Additionally, Dr. Wang is also well known by his outstanding works on traditional and learning-based digital geometry processing, including his early work on learning-based mesh denosing (SIGGRAPH Asia 2016), and interactive geometric feature editing (SIGGRAPH Asia 2015), as well as his recent works on geodesic distance computation with graph neural networks (GeGNN in SIGGRAPH Asia 2023).

Dr. Wang also actively serves the graphics communities as the PC members of graphics conferences (e.g. Eurographics 2024, CVM 2023 & 2024.), and the paper reviewers of graphics and vision conferences and journals, such as ACM SIGGRAPH/TOG, IEEE TVCG, CVPR and CVMJ.

AG Conferences

http://www.asiagraphics.org/conferences-events/

Pacific Conference on Computer Graphics and Applications (PG)

Web: http://www.asiagraphics.org/pg/

Steering Committee

- Seungyong Lee (POSTECH, Korea) [chair]
- Wenping Wang (University of Hong Kong, China) [Founding and Previous Chair]
- Hujun Bao (Zhejiang University, China)
- Robin Bing-Yu Chen (National Taiwan University, China)
- Shi-Min Hu (Tsinghua University, China)
- Myung-Soo Kim (Seoul National University, Korea)
- Leif Kobbelt (RWTH Aachen University, Germany)
- Tomoyuki Nishita (University of Tokyo, Japan)
- Hiromasa Suzuki (University of Tokyo, Japan)

International Conference on Geometric Modeling and Processing (GMP)

Web: http://www.asiagraphics.org/gmp/

Steering Committee

- Kai Hormann (Università della Svizzera italiana, Switzerland) [chair]
- Shi-Min Hu (Tsinghua University, China)
- Bert Jüttler (Johannes Kepler University Linz, Austria)
- Myung-Soo Kim (Seoul National University, Korea)
- Ligang Liu (University of Science and Technology of China)
- Kenji Shimada (Carnegie Mellon University, USA)
- Scott Schaefer (Texas A&M University, USA)
- Wenping Wang (The University of Hong Kong)

The Computational Visual Media Conference (CVM)

Web: http://iccvm.org/

Founder

- Shi-Min Hu (Tsinghua University, China)

AG Conferences @ 2023

PG 2023

- Website: https://pg2023.org/

The 31st Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2023) was held onsite in Daejeon, Korea from October 10 to 13, 2023.

There were 20 paper sessions and 3 keynote speeches. 56 full papers, 11 short papers, 14 posters, and 2 CGF papers were presented. The keynote speakers are Carol O'Sullivan from Trinity College Dublin, Niloy Mitra from University College London, and Maks Ovsjanikov from École Polytechnique.

(By Min H. Kim, PG2023 Program Co-Chair, KAIST, South Korea)

Call for Papers: International Conference on Geometric Modeling and Processing (GMP 2024)

GMP is an annual international conference series on geometric modeling, simulation, and computing. The modeling and processing of geometric data is fundamental to many computer applications, including computer graphics, computer vision, CAD/CAM, medical imaging, engineering analysis, robotics, additive manufacturing, and scientific computing. The GMP conference series provides researchers and practitioners with a forum for exchanging new ideas, discussing new applications, and presenting new solutions.

Now it is one of the three flagship conferences in Asiagraphics. The previous GMP conferences were held in Genova (2023), online (2020-2022), Vancouver (2019), Aachen (2018), Xiamen (2017), and San Antonio (2016), etc., with great success. GMP 2024 will be held in Qingdao, China, during Jun. 5-7, 2024.

https://irc.cs.sdu.edu.cn/gmp2024/index.html

Call for Papers: International Conference on Geometric Modeling and Processing (GMP 2024)

(cont'd...)

- Mathematical foundations of computer-aided geometric design
- Continuous/discrete/neural/volumetric representation of curves and surfaces
- Computational geometry algorithms and analyses
- Discrete differential geometry
- Isogeometric analysis
- Shape optimization
- Multi-resolution and heterogeneous modeling
- Image based modeling
- Material modeling
- Geometric feature modeling and recognition
- Geometric learning/data-driven approaches
- Processing for rendering Nanite
- Differentiable rendering
- 3D AIGC
- 3D printing and computational manufacturing
- CNC path planning

IMPORTANT DATES

- Dec 11, 2023: abstract submission (23:59:59 UTC)
- **Dec 18, 2023: paper submission (23:59:59 UTC)**
- Feb 18, 2024: first review cycle notification
- Mar 17, 2024: revised paper submission (23:59:59 UTC)
- Mar 31, 2024: second review cycle notification
- Apr 14, 2024: final paper submission
- Jun 5-7, 2024: conference dates

SUBMISSION LINK

https://srmv2.eg.org/COMFy/Conference/GMP_2024

https://irc.cs.sdu.edu.cn/gmp2024/index.html

Call for Papers: Pacific Conference 2024

The 31th Pacific Conference on Computer Graphics and Applications (Pacific Graphics 2024) will be held in Huangshan (Yellow Mountain), China on October 13-16, 2024. Pacific Graphics is an annual flagship conference of the Asiagraphics Association. As a highly successful conference series, Pacific Graphics provides a premium forum for researchers, developers, practitioners in the Pacific Rim and around the world to present and discuss new problems, solutions, and technologies in computer graphics and related areas.

We welcome original unpublished submissions in all areas of computer graphics and its applications. The topics include (but are not limited to) modeling, rendering, animation, imaging, visualization, human-computer interaction, and graphics systems. Papers should be submitted through the SRM system. Each submission should be 7-12 pages in length for the regular papers or 4-6 pages for the short papers, and will be reviewed by an international program committee for technical quality, novelty, significance, and clarity. All of the accepted papers will be archived in the EG digital libraries and all regular papers will be published in a special issue of Computer Graphics Forum.

https://pg2024.hsu.edu.cn/

Call for Papers: Pacific Conference 2024

(cont'd...)

In addition, the conference will also include poster and work-in-progress sessions. The poster and work-in-progress papers should be no more than 2 pages. The submission will be reviewed by the committee members and need to be anonymized.

As a premier forum for exchanging recent research ideas and practical achievements – Pacific Graphics is of exceptional value for students, academics and industry researchers.

IMPORTANT DATES

Regular papers: Early May, 2024

Short papers, work-in-progress papers, and posters: Early June, 2024

ORGANIZATION

Conference Co-chairs

Jan Bender, RWTH Aachen University, Germany

Ligang Liu, University of Science and Technology of China

Denis Zorin, New York University, USA

Program Co-chairs

Renjie Chen, University of Science and Technology of China

Tobias Ritschel, University College London, UK

Emily Whiting, Boston University, USA

Organization Co-chairs

Xiao-Ming Fu, University of Science and Technology of China

Jianwei Hu, Huangshan University, China

Call for Papers: Symposium on Solid and Physical Modeling (SPM) 2024

Description

The Symposium on Solid and Physical Modeling (SPM) is an international conference series organized annually with the support of the Solid Modeling Association (SMA). SPM'24 will be hosted at Concordia University, July 8-10, 2024. The conference aims at all aspects of geometric and physical modeling, and their application in design, analysis and manufacturing, as well as in biomedical, geophysical, digital entertainment, and other areas. The conference serves also as a ceremony for awarding the 2024 Pierre Bézier Prize for contributions to solid, shape, and physical modeling.

Scope

Topics of interest include, but are not limited to:

- 3D fabrication/printing/manufacturing technologies
- Anisotropic/heterogeneous/composite materials
- Applied algebraic and differential geometry
- Applied computational geometry and topology
- Conceptual, collaborative, and distributed design
- Computational fabrication
- Curve, surface, and manifold modeling
- Dimensioning and tolerancing
- Feature modeling, recognition, and understanding
- Geometric algorithms
- Geometric and topological representations
- Geometric constraint solving and parametric modeling
- Geometric interpolation and smoothing
- Geometry generation and processing
- Geometry compression and transmission
- Isogeometric analysis
- Meshing and mesh optimization

Call for Papers: Symposium on Solid and Physical Modeling (SPM) 2024

(cont'd...)

- Multi-resolution modeling
- Numerical analysis of geometric algorithms
- Physically-based modeling and simulation
- Product data exchange, standards, and interoperability
- Reverse engineering/reconstruction of surfaces/solids
- Robustness and validity of geometric computations
- Shape modeling, synthesis and analysis

Paper Submissions

Accepted full-length papers will be published in the journal of Computer-Aided Design (Elsevier) after a rigorous two-stage double-blind review process. Papers should be formatted according to the style guidelines for Computer-Aided Design and should not exceed 12 pages, including figures and references. We strongly recommend using the LaTeX template to format your paper, but we also accept papers formatted by MS Word according to the style guidelines for Computer-Aided Design (Elsevier). The file must be submitted in PDF format using the EasyChair website.

Important Dates

- **Abstract and full paper: February 3, 2024**
- **First review notification: March 20, 2024**
- **Revised papers due: April 17, 2024**
- **Final notification: May 5, 2024**
- **Camera ready papers: May 19, 2024**
- **Conference: July 8-10, 2024**

AG Newsletters

Call for contents: For any AG member who wants to share information or make advertisement in future issues of AG newsletters, please send the relevant item documents to us via the AG official email: asiagraphics.ag@gmail.com.

The items can be, but not limited to, as follows:

- reports on recent graphics related events (such as conferences, workshops, seminars, competition, etc.)
- breaking works/products/news;
- call for papers (CFP) of conferences, workshops, or special issues of journals, etc.
- advertisements and/or broadcasting news for future events, such as workshops, conferences, seminars, industrial news, etc.
- recruitment of faculty, staff, postdocs, or RA of universities, research labs, etc.
- other relevant stuff.

Call for Contents

AG Webinar

Mission: The AG webinar (held monthly) aims to showcase exciting research results, inspire and motivate new research, and create a regular recurring opportunity for the Asiagraphics community to meet and exchange ideas.

Format: In each AG webinar we will have 1.5 hours live session with 1-2 talks followed by Q&A, which will be held on Tuesday evening (Asian time) near the end of each month. Audiences can watch the live talks and raise questions on Youtube or Huya during and right after the talks. Then the session chair will help paraphrase the questions to the speakers.

Playback videos: All AG webinar talks will be recorded and shared on both Youtube and Bilibili.

Working Team:

- Ligang Liu (team chair)
- Xiao-Ming Fu (secretory)
- Yuki Koyama
- Minhyuk Sung

Nomination: if you want to nominate a speaker or provide feedback, please feel free to contact us or via asiagraphics.ag@gmail.com.

AG Webinar Session 23

Date: Tuesday, October 17, 2023
Time: 11:00am UTC/GMT | 07:00pm (Beijing, Singapore) | 08:00pm (Seoul, Tokyo)
Chair: Ziqi Wang, ETH Zurich

Talk 1
Title: Artistic robotic drawing on large, non-planar canvas
Speaker: Prof. Young J. Kim
Ewha Womans University, South Korea
Abstract: Throughout the history of art, artists have continuously embraced technological advancements, incorporating machines and innovative technologies into their creative endeavors to push the boundaries of traditional art forms. Today, contemporary artists are at the forefront of exploring new avenues for creative expression, with robots emerging as a significant medium for artistic innovation. In this presentation, we will introduce our recent robotic drawing projects that extend the world of art. These robotic systems are designed to produce artistic drawings on large, non-planar canvases, employing techniques such as impedance control, non-conformal mapping, and coverage planning. Furthermore, we will delve into the realm of TSP-pen art, an artistic form that involves the creation of images using piecewise-continuous line segments, showcasing how our robotic systems can extend this concept to achieve quality results. Lastly, we will unveil a stroke-based robotic drawing system that not only produces high-quality drawings but also mimics the behaviors of a human artist, demonstrating the exciting possibilities at the intersection of art and technology.

AG Webinar Session 23

Talk 2

Title: Algorithmic planning for robotic assembly of building structures

Speaker: Dr. Yijiang Huang
ETH Zurich

Abstract:
How can we enable robots to build houses for us? Can they build structures that are impossible to build by humans? Answers to these questions are hidden in the process of programming or planning the robots to achieve our high-level assembly goal. This planning process reveals an intricate interplay between robot reachability, structural stability, and task assignment.

In this talk, I will present our work on automated planning approaches to program robot builders and assign material resources in architectural-scale experiments. We demonstrate that these algorithms enhance design-build flexibility by (1) enabling robotic assembly of arbitrary design inputs, (2) reducing wasted programming efforts for new robot fabrication processes, (3) allowing design responsive to upcycled material inventory.

AG Webinar Session 22

Date: Friday, September 15, 2023
Time: 11:00am UTC/GMT | 07:00pm (Beijing, Singapore) | 08:00pm (Seoul, Tokyo)
Chair: Tao Yu, Tsinghua University, China

Talk 1

Title: Monocular Camera based High-fidelity Digital Human Modeling and Animation
Speaker: Prof. Juyong Zhang
University of Science and Technology of China, China
Abstract: Traditional digital human modeling and animation methods rely on expensive acquisition equipment, complex production processes, and a large number of manual interactions by professional staff, which greatly limit its wide applications. The 3DV group of USTC has conducted research on the aspect of monocular camera based high-fidelity digital human modeling and animation toward the target of "digitalize everyone in the world". In this talk, I will share our research work about: high-fidelity 3D head modeling, audio-driven talking head, clothed human modeling and animation.

AG Webinar Session 22

Talk 2

Title: Digital Human Modeling with Light

Speaker: Dr. Shunsuke Saito
Meta Reality Labs Research, USA

Abstract:
Leveraging light in various ways, we can observe and model physical phenomena or states which may not be possible to observe otherwise. In this talk, I will introduce our recent exploration on digital human modeling with different types of light. First, I will present our recent work on the modeling of relightable human heads, hands, and accessories. In particular, we will take a deep dive into our advancement in a capture system as well as learning algorithms that enable the real-time and photorealistic rendering of dynamic humans with global light transport. Then, I will also present our recent work on 3D hair reconstruction with X-rays. Image-based hair reconstruction is an extremely challenging task due to the limited observation of hair interior. To address this, we propose a fully automatic hair reconstruction method by utilizing computed tomography (CT). We show that our approach achieves high-fidelity reconstruction of 3D hair strands for a wide variety of hair styles, which are ready for downstream applications such as rendering and simulation.

AG Membership

AG Members

In order to fulfil its purpose, AG shall act either directly or through its members or through groupings created by its members either on a subject or national basis.

Please see the details in the constitution of AG at: http://www.asiagraphics.org/constitution/

Membership Fee

The AG membership fee is currently 0$. The membership fee for 2023 and later years will be announced later.

How to join

Please follow the easy steps below to complete your membership registration:

1. Follow the following link, which can also be found at the AG website, to go to the application page: https://asiagraphics.wufoo.com/forms/asia-graphics-membership-registration/
2. Fill in the required information specified on the page:
   a. Name and Gender
   b. Occupation: student, teacher, engineer, designer, etc
   c. Email address and other (optional) contact information
   d. Affiliation

AG Membership

Rights and Interests

We appeal to your support by joining the AG Association as members.

The following information is for your ease of reference.

1. AG membership is open to all people interested in computer graphics, interactive technology, and related fields;
2. Members enjoy discounts in registration fees for the conferences (including PG, GMP, CVM) organized or sponsored by AG;
3. The membership fee is waived in 2022. The annual fee in the future will be determined by the Executive Committee of AG;
4. All members have the same voting right, including electing executives and being elected to be executives;
5. There is no separate category of student membership. Student members have the same voting right as the other members;
6. The numbers of executives from different regions or countries are roughly proportional to the number of members from the regions or countries;
7. All AG members will be invited to nominate and elect the Executive Committee members of AG in online elections.

ASIAGRAPHICS

Asian Association for Computer Graphics and Interactive Technology

Join AG Membership Now !

Website:

www.asiagraphics.org

Contact us at:

asiagraphics.ag@gmail.com