



中国科学院 自动化研究所

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National Laboratory of Pattern Recognition

中国-欧洲信息、自动化与应用数学联合实验室 **LIAMA**



# 献给CV和CG入门者之 科研经验浅问细答兼与大家探讨

吴怀宇

[hywu@nlpr.ia.ac.cn](mailto:hywu@nlpr.ia.ac.cn), [huaiyuwu@gmail.com](mailto:huaiyuwu@gmail.com)

<http://www.sigvc.org>

中国科学院

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# 1

# 为什么做科研?

- 科研的唯一源泉是你的**兴趣和理想**。

# 科研的几个好处

- 有利于身心健康。科研时大脑发出阿尔法脑电波，和僧人入静时发出的脑电波是一样的，对人的身心健康很有好处，因此很多学者非常长寿
- 证明自己的智商至少是正常的，甚至位于Top 10%
- 以后不容易受骗。并有机会站在全球科技的前沿，了解世界科学水平发展的现状，为自己今后人生的规划打下扎实的基础！
- 在自己年轻时，有一个真正有技术含量的锻炼机会。睿智渊博、见多识广的导师将潜移默化、言传身教地教你学会做人、做事
- 更多、更强大的...如为祖国的四化做贡献、为人类摆脱黑暗而奋斗，等等

# 科研的几个误区

- 搞科研的人都是天才，自己只是个“跑龙套”的
- 总觉得自己倒霉，导师分了个很难的课题。
- 好高骛远，嫌课题太小。
- 不关心和自己研究方向没有直接联系的领域发展情况
- 对权威专家的论点深信不疑；或盲目推翻权威（如爱因斯坦的相对论已被“民科们”推翻了无数次）
- 期望看一篇论文马上就能用，希望投一篇文章马上就能中
- 光看论文，不动手实验
- 当实验结果和预想不符时就马上放弃原来想法
- 很多人老是说自己基础如何如何差，担心搞不定。从来就没有太晚的时候，人都是逼出来的。

# 科研容易还是很难？

- 搞科研需要亮剑精神，需要闯关！
  - 很难！ 闯不过，便裹足不前。
  - 容易！ 闯过了，就一马平川

# 搞科研必须要过的几个关

- 1、查文献，跟踪学科前沿（选题）
- 2、读懂论文。良好的数学、专业基础。
- 3、独立思考。**天马行空**
- 4、卓越的动手能力，和不骄不躁的心态。**水银泻地**
- 5、写报告、写出严谨优美的论文。**板凳要坐十年冷，文章莫写一字空。**
- 6、与人交流、沟通的能力。要有交流的冲动和激情。  
利用一切机会，如Paper Reading Group、Seminar、  
Coffee break、Workshop、Conference

### 3

## 科研从哪里开始？

- 从选题开始！
- 选题的重要性
  - 选题直接关系到你的研究工作能否顺利开展，是成功还是失败，成果是大还是小，价值是高还是低。

# 如何选题

## ● 「前瞻式」选题

- 彻底检索你感兴趣的领域的文献，精读最新最「热」杂志里最「热」的文章，搞清楚这个领域里已解决的和未解决的问题。然后，你开始针对未解决的问题设计自己的实验。
- 但是，这种方式对一个科研新手是有问题的，大多数未解决的重要问题的下一步工作，很可能已/正在许多实验室中进行。一个新手要和他们竞争，显然是处于极为不利的地位。

# 如何选题

## ● 「回顾式」选题

- 把所有「热」杂志「热」文章都暂搁一边，读几篇你所选的领域里最近的权威综述，从这些综述中选出几个你感兴趣，在这领域里已被公认的、接受的概念和假说。
- 在仔细阅读这些文章后，你开始设计一个新的实验，用过去没有的新技术或方法，再度检测这个假说。
- 对新手来说，第二种回顾式研究则提供了一个比较合适的方式。**新手推荐！** 先至少实现三篇别人的好文章再开始自己的工作！先无我，然后有我，再到自我，最后重归无我。

# 如何选题

## ● 选题经验

- 实现的第一篇文章最好不要太容易，最好有足够的数学理论，便于你以后拓展
- 但，也不能太复杂。太复杂的文章，尤其是那些靠融合多种复杂方法的文章不会给你留下更多“肉”
- 找形式上简洁优美（实现起来比较容易）、同时理论上艰深晦涩的文章作为你的第一篇最好！

## 4

## 科研也分档次吗？

- 有！正因为现实总是如此地不平等，所以我们的理想才会如此地渴求平等。
- 科研创新的几个层次：
  - 1。基础创新。如指南针、火药、造纸术、活字印刷术的发明，一经发明便可渗透到各个领域。很难，可遇不可求。
  - 2。方法创新：如SVM、PCA、Garbor的提出。巧妙的利用基础的东西，提出一个新的方法或者概念。概念来源于基础。
  - 3。应用创新：大多数都是应用创新，巧妙的组合新方法，有理有据的，实验结果证明其有效性。比如将SVM、Garbor和PCA首先成功用到人脸识别等。

# 科研也分档次吗？

- 大学生：老师命题， 老师知道答案
- 研究生：导师出题， 导师不知道答案
- 博士后：导师不出题， 导师不知道答案（自己找方向、找方法、找结果）

# 如何获得好的idea

- 大量地、仔细地阅读文献；
- 多听学术报告、多与同学、同行探讨，从中获得启示。  
。参加Paper Reading Group、Seminar、Coffee break、workshop、Conference等
- 不要总是陷入工作，给自己独立思考的时间。
- 总结感兴趣领域内尚未探讨过但很有意义的课题；
- 总结争论性很强的问题，反复比较研究方法和结论，从中发现切入点；
- 善于抓住科研过程中遇到的难以解释的问题，往往会造成思维的闪光点；
- 增大知识面，时间允许的情况下多读读闲书，并可阅读创新方法论方面的专著。

## 5

## 科研也有捷径吗？

- 有！ 聪明地走捷径会使自己更早地脱颖而出，更早地拥有更多的机会。
- 科研中的一些方法和技巧：
  - 培养自己对研究领域和研究工作的兴趣和好奇心。主观能动性在科研中很重要。
  - 积极参加学术报告和学位论文答辩会；
  - 抓住机会和同学、同行学者多交流，Paper Reading Group、Seminar、Coffee break、workshop、Conference等；
  - 经常浏览本领域大牛的主页，**每月“检查”**他们的最近工作；
  - 把各种偶发的奇思异想用个小本子记录下来；
  - 网上新闻组、BBS论坛、Mailing List（对于编程尤为重要）

## ● 科研中的一些技巧（接上）：

- 在师兄毕业之前就注意接手，论文里的细节追根刨底，把自己的工作建立在前人的基础上。
- 泛读和精读相结合
- 勇于提供自己的想法让别人评论，在同组同学面前不用担心被抄袭
- 弄清不同方法之间的联系和区别。**正向思维/逆向思维，奇正结合。**
- 尊敬导师，跟导师多交流，争取得到导师的大力支持。好的导师很重要。争取获得导师的支持和认可。

## 6

## 科研， Re-search。那首先， how to search?

- 查找文献是科研的第一步。巧妇难为无米之炊。

- Famous journals and conferences in CG & CV
- How to get them
  - 1) Google search
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  - 3) Author homepage
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  - 6) Go to BBS
- EI & SCI
- Go to library
- How to make bibliography in your paper
- Integrated interface!

# Famous journals and conferences in CV & CG

# Famous journals -CV

- International Journal of Computer Vision (IJCV)
- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)
- IEEE Transaction on Image Processing (IP)
- IEEE Transactions on Signal Processing
- IEEE Transactions on Multimedia

# Famous journals –CV (cont.)

- IEEE Transactions on Robotics and Automation (已分成两个: IEEE Transactions on Automation Science and Engineering, IEEE Transactions on Robotics)
- IEEE Transactions on Systems, Man and Cybernetics, (SMC A, B, C)
- Pattern Recognition (PR)
- Computer Vision and Image Understanding
- Image and Vision Computing
- Pattern Recognition Letters (PRL)
- Machine Vision and Applications

# Famous conferences - CV

- Top conferences in CV and PR

- ICCV, @IEEE (每两年一次, 奇数年)
- CVPR, @IEEE (每年一次, 美国)
- ECCV, @ Springer (每两年一次, deadline: 偶数年上半年, 欧洲)

- Popular conferences in CV and PR

- ACCV, @ Springer (每两年一次, deadline: 偶数年下半年, 亚太地区)
- ICPR
- ICIP
- BMVC
- ....

# Famous journals - Graphics

- ACM Transactions on Graphics (TOG)
- IEEE Transactions on Visualization and Computer Graphics (TVCG)
- IEEE Computer Graphics and Applications
- Computer Aided Design
- Computer Aided Geometric Design
- Computer Graphics Forum
- Graphical Models

## Famous journals – Graphics (cont.)

- Computers & Graphics
- The Visual Computer
- Computer Animation and Virtual Worlds
- Journal of Visualization
- Computational Geometry–Theory and Applications
- International Journal of Computational Geometry and Applications

# Famous conferences - CG

- SIGGRAPH (美国; deadline: 每年1月底)
- Eurographics (EG) (欧洲; deadline: 每年9月底)
- SIGGRAPH Asia (亚洲; deadline: 每年5月中旬)
- ACM SIGGRAPH Symposium on Interactive 3D Graphics and Games (I3D)
- ACM SIGGRAPH / Eurographics Symposium on Comp. Animation (SCA)
- Eurographics Symposium on Geometry Processing (SGP)

[Ke-Sen Huang's SIGGRAPH Page](#)

[Tim Rowley's SIGGRAPH Page](#)

## Famous conferences – CG (cont.)

- Pacific Graphics (PG)
- Computer Graphics International (CGI)
- Graphics Interface (GI)
- CASA
- Shape Modeling Int. (SMI)
- ACM Symposium on Solid & Physical Modeling (SPM)
- Eurographics Workshop on 3D Object Retrieval
- EGSR (Rendering Workshop)

# Famous journals - AI

- IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)
- Journal of Machine Learning Research
  - <http://www.jmlr.org>
- Machine Learning (kluweronline)
- Artificial Intelligence
- Journal of Artificial Intelligence Research
  - <http://www.jair.org>

# Famous conferences—AI

- NIPS
  - <http://books.nips.cc/>
- ICML, ECML
- IJCAI
  - <http://www.ijcai.org/>
- AAAI

# Famous journals—General

- Magazines for general purpose
  - Science
    - <http://www.sciencemag.com>
    - <http://intl.sciencemag.com>
  - Nature
    - <http://www.nature.com>
- Journals for general purpose in CS
  - ACM Computing Surveys
  - IEEE Computer
  - IEEE Intelligent System

# How to find them

# 1) Google search

- Search the title of the paper in Google,
- Then download the PDF

## 2) Professional search engine

- Try google scholar at  
➤ <http://scholar.google.com>
- CiteSeer<sup>x</sup>  
➤ <http://citeseerx.ist.psu.edu/>

### 3) Author homepage

- Search the name of the authors in Google,
- Then go to the personal page of the author

## Jovan Popović

Affiliate Professor, University of Washington

Senior Research Scientist, Adobe Systems



After receiving B.S. degrees in mathematics and computer science in 1995, I attended University of Washington and Carnegie Mellon University where I received a Ph.D. in computer science. In 2001, I joined the faculty at the Massachusetts Institute of Technology until leaving for Seattle in 2008 to join the Advanced Technology Labs at Adobe and the affiliate faculty at University of Washington. Today my research interests span the areas of computer animation and geometric modeling.



### SELECTED PAPERS



#### Semantic Deformation Transfer

ACM Transactions on Graphics 28(3), 2009, to appear.

Ilya Baran, Daniel Vlasic, Eitan Grinspun, Jovan Popović

[\[paper\]](#) [\[video\]](#)



#### Deformable Object Animation Using Reduced Optimal Control

ACM Transactions on Graphics 28(3), 2009, to appear.

Iernei Barbič, Marco da Silva, Jovan Popović

[\[paper\]](#) [\[video\]](#)

#### Linear Bellman Combination for Control of Character Animation

### CONTACT

Adobe Systems Inc.  
801 N. 34th Street  
Seattle, WA 98103  
Tel: 206-675-7980

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- IEEE (PAMI, ICCV, CVPR...)  
➤ <http://ieeexplore.ieee.org/>
- ACM (SIGGRAPH...)  
➤ <http://www.acm.org/>
- Springer (IJCV, ECCV, ACCV...)  
➤ <http://www.springerlink.com/>  
➤ <http://springer.lib.tsinghua.edu.cn>
- ScienceDirect (CVIU, C&G...)  
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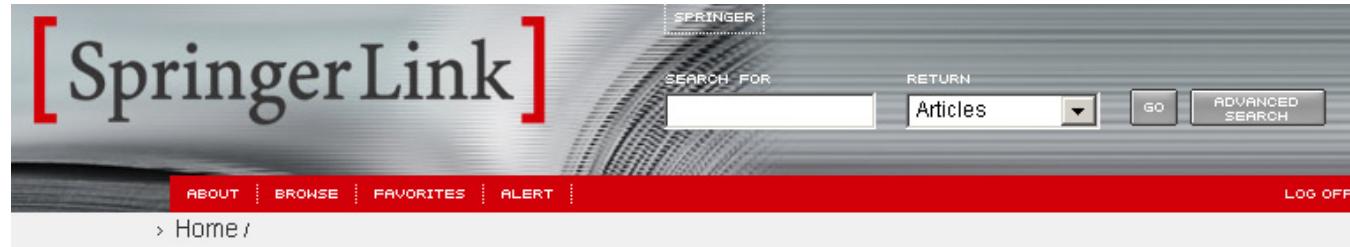


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# 集成检索：包括将要召开会议的deadline和已开会议的论文集信息

**CG & CV Conferences:** (Ref. [Tim Rowley's Siggraph](#) and [Ke-Sen Huang's Home Page](#))

- ▶ Soon | **ICCV WORKSHOP IJCV** (2009/7/6) 通知8/3 [LOGIN](#) | **ICASSP 2010** (2009/09/14)通知11/11 | **EG 2010** (2009/9/25) 通知11/23, [LOGIN](#) | **VRCAI2009** (poster: abstract: 10/16; paper: 10/19 (2-6 pages). [Login](#)) | **CVPR2010** (2009/11/19, [login](#)) | **SMT 09** (2008/12/08) 通知2/22 | **ICIP 2010**(2010/1/11)通知4/12 | **ICME 2009** (2009/1/15) 通知3/10 | **ICPR 2010** (2010/1/15)通知3/30 | **Siggraph 09** (2009/01/20) [login](#) | **CASA 2009** (2009/2/10) 通知2009/3/10 | **ICCV 09** (2009/3/10) [login](#) | **IEEE Visualization 09** (2009/3/31) | **ACCV 2009**(2009/04/08)通知7/15 [login](#) | **PG 09** (2009/04/24) | **SIGGRAPH Asia 09** (2009/05/12) |
- ▶ Last | **The 3IA International Conference on Computer Graphics and Artificial Intelligence (3IA 2008)** | [CGI 2008](#) |
- ▶ **ACM SIGGRAPH: 09, 08, 07, 06, 05, 04, 03, 02, 01, 00**, [SIGGRAPH Archive](#)
- ▶ Siggraph Asia: [09, 08,](#)
- ▶ **EuroGraphics (EG): 09, 08, 07, 06, 05, 04, 03**
- ▶ **Symposium on Geometry Processing (SGP): 09, 08, 07, 06, 05, 04, 03**
- ▶ **Computer Graphics International (CGI): 08, 07, 06, 05, 04, 03**
- ▶ **ICCV: 07,**
- ▶ **CVPR: 09, 08, 07,**
- ▶ **ECCV: 08, 06,**
- ▶ **IEEE Visualization (Vis): 08, 07, 06, 05, 04, 03**
- ▶ **Pacific Graphics (PG): 09, 08, 07, 06, 05, 04, 03**
- ▶ **Sym. on Comp. Animation (SCA): 08, 07, 06, 05, 04, 03**
- ▶ **I3D: 08 (new), 07, 06, 05, 03**
- ▶ **Graphics Interface (GI): 08 (new), 07, 06, 05**
- ▶ **Shape Modeling Int. (SMI): 08, 07, 06, 05, 04**
- ▶ **Sym. on Solid & Physical Modeling (SPM): 08 (new), 07, 06, 05**
- ▶ **EGSR (Rendering Workshop): 08, 07, 06, 05, 04, 03**
- ▶ **Eurographics Workshop on 3D Object Retrieval: 08.**
- ▶ **Symposium on Applied Perception in Graphics and Visualization: 08, 07, 06, 05, 04**
- ▶ **CASA: 08, 07,**
- ▶ **Graphics Hardware: 07, 06, 05, 04, 03, 02, 01, 00**
- ▶ **ACM MM: 08,**
- ▶ **Rank | [Computer Science Conference Rankings \[local\]](#) | [CiteSeer \[local\]](#) | [Acceptance rate \(graphics/interaction/vision\) \[local\]](#), [Ke-Sen Huang's\[local\]](#) (也包含了论文接受率) | [CS Journal \[local\]](#) | [ACM Computing Classification\[1998 Version\]](#) | [Tim Rowley's Siggraph](#) | [Ke-Sen Huang's Home Page](#) | [Computer Vision conference](#) | [中国图书馆分类法](#)**

# 集成检索：包括计算机图形学、视觉的相关期刊及网址

## Computer Graphics Related Journals:

- ▶ [ACM Transactions on Graphics](#)(SCI) (average 2.5 months to decision; max is 4) **2.661->3.652->4.081->3.413 IF2004->IF2005->IF2006->IF2007**
- ▶ [IEEE Transactions on Visualization and Computer Graphics](#)(SCI) ([登录Manuscript Central](#)) **1.694->1.457->1.794->1.600**
- ▶ [IEEE Computer Graphics and Applications](#)(SCI) **1.602->1.152->1.429->1.398**
- ▶ [Graphical Models](#)(SCI) **0.595->1.024->0.702->0.982**
- ▶ [Computer Animation and Virtual Worlds](#)(SCI) ([Login](#)) **0.522->1.091->0.644->0.547**
- ▶ [Computer Graphics Forum](#)(SCIE) **0.801->0.972->1.164->1.107**
- ▶ [The Visual Computer](#)(SCIE) (about 4-5 months to decision) **0.494->0.667->0.708->0.690**
- ▶ [Computers & Graphics](#)(SCIE) **0.503->0.641->0.601->0.523**
- ▶ [Computational Geometry-Theory and Applications](#)(SCIE)
- ▶ [International Journal of Computational Geometry and Applications](#)(SCIE)
- ▶ [Journal of Visualization](#)(SCIE)
- ▶ [Computer Aided Design](#)(SCI) **1.052->1.173->1.446->1.222**
- ▶ [Computer Aided Geometric Design](#)(SCI) **0.916->1.034->1.208->1.382**
- ▶ [Journal of Geometry and Physics](#)
- ▶ [ACM Journal on Computing and Cultural Heritage](#)

## Computer Vision Related Journals:

- ▶ [IJCV](#)(SCI)
- ▶ [IEEE Transactions on Pattern Analysis and Machine Intelligence](#)(SCI) (average 8-9 months to decision)
- ▶ [IEEE Transactions on Image Processing](#)(SCI)
- ▶ [Computer Vision and Image Understanding](#)(SCI) **0.651->1.468->1.548->1.417**
- ▶ [Image and Vision Computing](#)(SCI)
- ▶ [Pattern Recognition](#)(SCI)
- ▶ [Pattern Recognition Letters](#)(SCIE)
- ▶ [IEEE Transactions on Multimedia](#)(SCI)
- ▶ [电子学报](#)(SCI), 站点2, 3
- ▶ [JCST](#)
- ▶ [IEEE Transactions on Automation Science and Engineering](#)
- ▶ [SMC-A; SMC-B; SMC-C](#)
- ▶ [Machine Vision and Applications \(<http://www.springerlink.com/content/100522/>\) IF 2006: 0.569](#)
- ▶ [Image and Vision Computing \(\[http://www.elsevier.com/wps/find/journaldescription.cws\\\_home/525443/description#description\]\(http://www.elsevier.com/wps/find/journaldescription.cws\_home/525443/description#description\)\) IF 2006: 1.548](#)
- ▶ [Pattern Recognition Letters \(\[http://www.elsevier.com/wps/find/journaldescription.cws\\\_home/505610/description\]\(http://www.elsevier.com/wps/find/journaldescription.cws\_home/505610/description\)\)](#)

# 集成检索：包括各个研究组和研究人员

## People

### US:

- [Ronald Fedkiw](#),
- [Leo Guibas](#),
- [Pat Hanrahan](#),
- [Marc Levoy](#)@Stanford,
- [Zoran Popović](#), (运动捕捉)
- [Steven M. Seitz](#),
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- [Martin Isenburg](#),
- [Maneesh Agrawala](#)@Berkeley,
- [Hugues Hoppe](#), (网格渐进压缩)
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- [Alan H. Barr](#),
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- [Peter Schröder](#),
- [Ying Tang](#)@CalTech, (DEC)

### Germany:

- [Alexander G. Belyaev](#),
- [Zachi Karni](#),
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- [Hans-Peter Seidel](#)@MPI,
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- [Kai Hormann](#)@TU Clausthal (参数化)
- [Volker Blanz](#) (morphing model)
- [Holger Theisel](#) (可视化、图形学结合)
- [Daniel Weiskopf](#) (可视化)

### Canada:

- [Vladislav Kraevoy](#), (DGP)
- [Alla Sheffer](#),
- [Dinesh K. Pai](#)@UBC,
- [Aaron Hertzmann](#),
- [Karan Singh](#),
- [Eugene Fiume](#)@Toronto,
- [Hao Zhang](#)@SFU, @Waterloo (谱分析, DGP课程)
- [Oliver Matias van Kaick](#) (谱方法, 压缩)
- [Martin Reuter](#) (谱方法, MIT)

### France:

- [Frédéric Cazals](#),
- [Jean-Daniel Boissonnat](#),
- [David Cohen-Steiner](#),
- [Marie-Paule Cani](#),
- [Pierre Alliez](#)@INRIA, (参数化、remesh、压缩)
- [Bruno Lévy](#)@loria (DGP)
- [François Sillion](#)(好像什么都做)

# About SCI & EI

- Sci (ISI)
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  - Journal citation report (JCR)
- EI (Ei Compendex)
  - <http://www.engineeringvillage2.org.cn/>

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**Full Journal Title:** INTERNATIONAL JOURNAL OF COMPUTER VISION

**ISO Abbrev. Title:** Int. J. Comput. Vis.

**JCR Abbrev. Title:** INT J COMPUT VISION

**ISSN:** 0920-5691

**Issues/Year:** 12

**Language:** ENGLISH

**Journal Country/Territory:** UNITED STATES

**Publisher:** SPRINGER

**Publisher Address:** VAN GODEWIJCKSTRAAT 30, 3311 GZ DORDRECHT, NETHERLANDS

**Subject Categories:** COMPUTER SCIENCE, ARTIFICIAL INTELLIGENCE

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(Journal of Microwave Power and Electromagnetic Energy)  
"near field scanning"

Browse the author look-up index to select all variations of an author's name  
Smith, A. OR Smith, A.J. OR Smith, Alan J.



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- The Collection of Computer Science Bibliographies
  - <http://liinwww.ira.uka.de/bibliography/index.html>
- Keith Price Bibliography
  - <http://iris.usc.edu/Vision-Notes/bibliography/contents.html>

# How to make bibliography in your paper

## ● Steps

- Find in the Collection of Computer Science Bibliographies
- Copy the BibTex entry
- Paste the entry into .bib file
- Cite the entry from CTex
- Compile the Tex file

# How to make bibliography in your paper

The screenshot shows a Microsoft Internet Explorer window displaying the "Computer Science Bibliography Collection". The title bar reads "Computer Science Bibliography Collection - Microsoft Internet Explorer". The address bar shows the URL: "http://liinwww.ira.uka.de/cgi-bin/bibshow?e=Njtd0ECMQ03117/fyqboef%7d:8159266&r=bibtex&mode=intra". The menu bar includes "文件(F)", "编辑(E)", "查看(V)", "收藏夹(A)", "工具(I)", and "帮助(H)". The toolbar includes icons for back, forward, search, and print. The main content area has a yellow header with the text "The Collection of Computer Science Bibliographies". Below the header is a vertical menu with links: Home, About, FAQ, Browse, Add, and Statistics. A note below the menu states "From DBLP (2006)". The central part of the page displays a BibTeX entry:

```
@Article{journals/cad/ReuterWP06,
    title = "Laplace-Beltrami spectra as 'Shape-(DNA)' of surfaces
              and solids",
    author = "Martin Reuter and Franz-Erich Wolter and Niklas
              Peinecke",
    journal = "Computer-Aided Design",
    year = "2006",
    number = "4",
    volume = "38",
    bibdate = "2006-12-20",
    bibsource = "DBLP,
                http://dblp.uni-trier.de/db/journals/cad/cad38.html#ReuterWP06",
    pages = "342--366",
    URL = "http://dx.doi.org/10.1016/j.cad.2005.10.011",
}
```

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# How to make bibliography in your paper

template.tex why.bib template\_2.tex egpaper\_for\_review\_ICCV09.tex egpaper\_for\_review.tex SIGGRAPH09WHY.tex EGauthorGuidelines-body.tex

```
@Article{Sorkine:2007:ARA,
    title = "As-rigid-as-possible surface modeling",
    author = "Olga Sorkine and Marc Alexa",
    journal = "Eurographics Symposium on Geometry Processing",
    year = "2007",
    volume = "257",
    pages = "109--116",
}

► @Article{Sumner:2004:DTF,
    title = "Deformation transfer for triangle meshes",
    author = "Robert W. Sumner and Jovan Popovi{\'c}",
    journal = "SIGGRAPH",
    year = "2004",
    pages = "399--405",
}
```

# How to make bibliography in your paper

The screenshot shows the WinEdt LaTeX editor interface. The title bar reads "WinEdt - [D:\lwhylmypaper\COMPUTERS & GRAPHICS\new\elsarticle\_v2\elsarticle-template-num.tex]". The menu bar includes File, Edit, Search, Insert, Document, Project, Tools, Macros, Accessories, Options, Window, Help. The toolbar has various icons for file operations, text styling (B, I), graphics, and document conversion (PDF, DVI, PS, etc.). The status bar at the bottom shows "185:43" and "1115".

Document content:

```
shape-preserving mesh correspondence.

Below, we give a brief overview of works related to ours.

\begin{figure*} \centering
\includegraphics[width=1.0\textwidth]{Figure/MTDF.eps} \caption{(a)
D Deformation transfer \cite{Sumner:2004:DTF} cannot produce
satisfying results when the source and target have different
reference poses. (b) Using model transduction, a lion model
successfully imitates the pose of a cat model even if the reference
source mesh is absent.} \label{fig:MTDF}
\end{figure*}

\textbf{Deformation transfer and model transduction:} Deformation
transfer
\cite{Sumner:2004:DTF, Noh:2001:EC, Zayer:2005:HGF, Shi:2007:MPC}
applies source mesh's deformation onto a different target mesh. In
order to generate the deformed target model  $\$T\$$ , one must provide
all of the three models: the reference source model  $\$S\$$ , the
deformed source model  $\$S'\$$  and the reference target model  $\$T\$$ , as
showed in Figure \ref{fig:MTDF}a. Note that in deformation transfer,
 $\$S\$$  is indispensable for obtaining the source model's deformation to
```

# 阅读paper的技巧

- 首先注意文章的参考价值。会议的档次，刊物的影响因子、文章的被引次数能反映文章的参考价值
- 多数文章看摘要，少数文章看全文。
- 实在看不懂，则Google相关文章，看别的文章是怎么评述它的。
- 集中时间看文献。看过总会遗忘。看文献的时间越分散，浪费时间越多。集中时间看更容易联系起来，形成整体印象。
- 做好记录和标记。复印或打印的文献，直接用笔标记或批注。pdf 或html 格式的文献，可以用编辑器标亮或改变文字颜色。这是避免时间浪费的又一重要手段。否则等于没看。
- 最后，把别人文章的idea总结成一句话，这样才容易理解它的本质
- 警告：读大量文献有碍健康，扼杀年轻科学家的创造力！但，读大量好的文献有益健康，即使扼杀也杀得心服口服。

## 7

# 我们如何出牛文章？

- 首先要具备“三心二意”。 信心、细心、恒心； 意愿、意志。
- 多看paper没有坏处。 不看文献要写牛文章，可以说一点可能都没有。 只有广看论文，深入学习，才能厚积薄发，写出好的文章出来。
- 除了老板，多找找其他人，如其他老师，前辈师兄等讨论，容易出idea，借鸡下蛋
- 用心分析别人的idea。 任何一个idea都有weakness；想办法解决它，那就成自己idea。 最好的办法就是看大牛的paper，分析发现漏洞和不足或不全面之处。
- 活要干的漂亮。 很多国际一流的杂志，文章的组织，图表的设计都很漂亮，还有老外的PPT一般也做的比我们要好。 活干的是否漂亮，关系到一个男人（女人）的品质。

# 我们如何出牛文章？

- 把工作做细。尤其是各个步骤、以及实验中，注意每一个细节做扎实。一般实现已有3篇论文以上的工作才能做得比较细致。
- 有了一篇牛文章还不够。工作要有连续性。要始终有一个明确的主线，慢慢积累，知道自己在做什么，为什么要这么做。发好期刊、好会议不一定代表好文章、代表影响力。
- 水平是慢慢提高的。科研英雄都不是金庸武侠式的英雄（主人公掉进一个山洞里，吃个千年人参，几个月后就武功盖世了）。不怕慢，就怕站！再慢的进度也是进步。先求数量（2~3，也不能太多太滥）再求质量。不要期望第一篇就是顶级的。

# 模板

- 投文章cover letter模板：

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This is a manuscript by \*\* and \*\* entitled “.....”. It is submitted to be considered for publication as a “...” in your journal. This paper is new. Neither the entire paper nor any part of its content has been published or has been accepted elsewhere. It is not being submitted to any other journal.

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Correspondence should be addressed to \*\* at the following address, phone and fax number, and email address:

...

Thanks very much for your attention to our paper.

Sincerely yours,

\*\*

# 模板

- 查询论文评审状态模板：

Dear Editors:

I'm not sure if it is the right time to contact you to inquire about the status of my submitted manuscript titled "。 。 。 " (No.: 。 。 。 ) although the status of "with editor" for my manuscript have been lasting for more than xx months(weeks).

I am just wondering that my manuscript has been send to reviewers or not?

Best regards

# 模板

- 修改后再投的cover letter模板：

Dear Editor Mr.xxx,

Thank you very much for your letter to inform the revisement of my paper. According to the suggestions of the referee , I made all the changes to the paper “your paper title,” which is now to being resubmitted to you as the attachment, which include:

- 1) Revised paper;
- 2) List of answer and revise

If you have received this message, please kindly give me a notice by email. Should you have any questions or instructions, please contact me.

Warmest Regards

Sincerely Yours

XXX

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## 8

# 科研也需要气氛，也需要扎堆吗？

- 绝对！实验室首先要有诺贝尔奖的“炸药味”，然后才能拿到炸药奖。
- 我们先来点咖啡味！
- Coffee Break！
- 征求大家意见！

# Coffee Break的定位

- 大讨：个人的正式陈述
- 小讨：几个人的较正式讨论
- Coffee Break：N个人的非正式party

# Coffee Break的“三非”和“三有”

- “三非”：

- 非正式
- 非主流
- 非单一

- “三有”：

- 有咖啡、美味的食品和茶点；
- 有老师。并“顺便”视察一下同学们的出勤
- 有交流。与大讨、小讨不同，同学们可以借此了解彼此的工作，增加今后合作的可能性。

# Coffee Break的几个特性

- 趣味性。“论提高全民普通话水平对提高我们实验室现有语音识别率的重要性”
- 发散性。“你认为写得最好的计算机视觉书是那一本？它的那一章”“你看过最好的paper觉得是哪一篇？引用率最高的CV论文文章是哪一篇，谁写得？”“你最欣赏的是哪一个CV组？为什么”
- 热点性。如：比一比谁目前刚看到的理论哪一个更玄乎？如“深贝叶斯网”？“小议从计算机视觉观点考察华南虎照真伪的九种方法”。“论统计机器学习方法对于把中药从伪科学危机中拯救出来的重要性”
- 前瞻性。“论三维几何方法有关的论文在ICCV09中必超过20%”

# Coffee Break的几个特性

- 专题性。“一张照片复原三维模型目前究竟能做到什么程度？”
- 尖锐性。不像大讨、小讨，多对一。我们在这里多对多，不客套，不轻描淡写，争论起来紧咬不放，置对方于死地而后令之生。
- 启发性。每次Coffee Break，自己至少多了一个“准idea”。
- 随意性。主持人轮转，主持人不仅是老师，学生觉得今天准备了什么好的话题，可以做主持人。甚至我们不需要主持人。
- 交流性。“你上次小讨讲的那篇文章现在实现的怎么样？遇到什么问题”。增强感情。虽不是水木Food版的版聚，但更甚Food的版聚，且增长了见识。

# Coffee Break

- 虽然随意，但不谈政治。
  - 自由、民主地讨论有关科学的话题。
  - 更多，请大家补充！
- 
- 不喝咖啡，茶要有绿茶，红茶
  - 水果（可能不需要）
  - 发水果，2: 30点
  - 主持人（简单记录讨论情况），轮转制度：  
把话题写在小黑板上。

# Reference

- Haifeng Gong, “How to find papers”
- Tim Rowley's Siggraph and Ke-Sen Huang's Home Page
- <http://lib.ia.ac.cn/>
- Xiaogang Jin's Homepage,  
<http://www.cad.zju.edu.cn/home/jin/>
- Hongbo Fu's link,  
<http://sweb.cityu.edu.hk/hongbofu/links.html>
- Others on Internet



# Thank You !