PETROS MARAGOS
Curriculum Vitae

PROFESSIONAL OCCUPATION

Professor Emeritus, National Technical University of Athens
School of Electrical & Computer Engineering, Zografou Campus, Athens 15773, Greece.
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EDUCATION

M.Eng. Diploma in Electrical Engineering, National Technical University of Athens, 1980.
M.Sc. in Electrical Engineering, Georgia Institute of Technology, Atlanta, USA, 1982.
Ph.D., Georgia Institute of Technology (Georgia Tech), Atlanta, USA, 1985.

I. PROFESSIONAL EXPERIENCE

1. *HARVARD UNIVERSITY*, Division of Applied Sciences, Cambridge, USA
- **Associate Professor**, July 1989 - June 1993.
- **Assistant Professor**, Sep. 1985 - June 1989.
- **Lecturer,** Aug. – Sep. 1985.
- *Head Coordinator* for Harvard's Undergraduate Program in Engineering Sciences, 1988 - 91.

2. *GEORGIA INSTITUTE OF TECHNOLOGY*, School of Electr. & Comp. Enginr., Atlanta, USA
- **Associate Professor**, June 1993 - Sep. 1998.

(On sabbatical and academic leave during 1996-98 periods of visits to NTUA and ILSP)

3. *NATIONAL TECHNICAL UNIVERSITY OF ATHENS*, School of Electr. & Comp. Engineering
- **Full Professor**, Sep. 1998 – Aug. 2025. Professor **Emeritus**, Sep. 2025 – present.
- ***Director*** *of Intelligent Robotics and Automation Laboratory*, 2008 – 2025.
- Founder/Head of *Computer Vision, Speech Communication & Signal Processing Lab*, 1999 – present.
- *Director of ECE Division of Signals, Control & Robotics*, 2009 – 2011, 2013-2019, 2022.
- *Director of Graduate Program* & Chair of Graduate Studies Committee, ECE, 2000-04.
- P.I. of research projects, *Institute of Communication and Computer Systems*, 1999 - present.

4. *ATHENA RESEARCH & INNOVATION CENTER*, Marousi, Attica, Greece
- **Co-Founder and Acting Director** of the *Robotics Institute*, 2023-2026.
- Founder and Scientific Director of the *Robot Perception and Interaction Unit*, 2014 - 2022.
- **Director of Research**, *Institute of Language & Speech Processing*, Mar. 1996 - Sep. 1998.

5. *HERON – Hellenic Robotics Center of Excellence*, Athens, Greece
- **Co-Founder, Director and Scientific Coordinator**, 2025 - present.

6. *VISITING POSITIONS*
- Visiting Professor, Univ. Pennsylvania, Dept. Computer & Information Science, Philadelphia, USA, Fall 2016, Fall 2019.
- Ming Hsieh Institute Distinguished Visitor, University of Southern California, Dept. ECE, SAIL, Viterbi School of Engineering, Los Angeles, USA, Feb. 2016, Fall 2023.
- Visiting Scientist, M.I.T., Lab Info. & Decision Systems, Cambridge, USA, Fall 2012, Feb.2014.

- Visiting Professor, NTUA, School ECE, Greece, Fall 1992, Oct. 1995 - Jun. 1996.

7. *NATIONAL COMMITTEES*

- **Member of National Council for Research and Technology**, Greece, 2005 – 2009.
- Chairman of Invention Award Committee of Hellenic Industrial Property Organization, 2007 – 08.
- Member of Scientific Council of National Documentation Center, Greece, 2005 – 2006.
- Member of Scientific Council for Mathematics & Information Sciences, Greece, 2011-2014.
- Member of Scientific Council for Artificial Intelligence, Greece, 2025 – present.

8. *CONSULTING POSITIONS*

- **Industry**
  - The Analytic Sciences Corporation, Massachusetts, 1986--1989.
  - Atlantic Aerospace Electronics Corporation, Waltham, Massachusetts, 1988.
  - Alphatech, Burlington, Massachusetts, 1990--1991.
  - Xerox, Palo Alto Research Center, California, 1989 - 1992 (image analysis).
  - Bellcore, NJ, 1990 (video processing systems).
- **Government**
  - Ministry of Internal Affairs & Administration, Greece, 1995 – 96.
  - Ministry of Aegean and Island Policy, 2005.

II. AWARDS AND HONORS

Research Awards from Professional Scientific Societies

- Received a **1987-1992 U.S.A. National Science Foundation's Presidential Young Investigator Award** ``In Recognition of Research and Teaching Accomplishments and Academic Potential".
- Received the **1988 IEEE Acoustics, Speech, and Signal Processing Society's Young Author Best Paper Award** ``for an especially meritorious paper published in the Society's Transactions by an author under 30 years of age". This paper was ``Morphological Filters -- Parts I and II", IEEE Trans. on A.S.S.P., Aug. 1987 (co-authored by P. Maragos and R. W. Schafer).
- Co-Recipient of the **1994 IEEE Signal Processing Society's Senior Best Paper Award** for his paper entitled ``Energy Separation in Signal Modulations with Application to Speech Analysis", IEEE Trans. on Signal Processing, Oct. 1993 (co-authored by P. Maragos, J. F. Kaiser, and T. F. Quatieri).
- Co-Recipient of the **1995 IEEE W.R.G. Baker Prize Award** ``for the most outstanding paper reporting original work in any of the IEEE Transactions, Journals, Magazines, or Proceedings of the IEEE issued during the previous calendar year". This paper was ``Energy Separation in Signal Modulations with Application to Speech Analysis", IEEE Trans. on Signal Processing, Oct. 1993 (co-authored by P. Maragos, J. F. Kaiser, and T. F. Quatieri).
- Co-Recipient of the **1996 Pattern Recognition Society's Honorable Mention Award** `for the most original manuscript of all manuscripts published in the 1995 issues of the journal'. This paper was ``Min--Max Classifiers: Theory, Design, and Application", Pattern Recognition, June 1995. (co-authored by P.-F. Yang and P. Maragos).
- Co-author of a paper that received the *Best Student Paper Award* at the 1st International Conference on Scale Space and Variational Methods in Computer Vision *(*Italy, May-June 2007). This paper was "Vector-Valued Image Interpolation by an Anisotropic Diffusion-Projection PDE", co-authored by A. Roussos and P. Maragos. It also received *Best Student Paper Award* at the 1st Panhellenic Conference of Electrical and Computer Engineering Students, Athens, 2007.
- Recipient of the **2007 European Signal Processing Association's (EURASIP) Technical Achievements Award** "for contributions to Nonlinear Signal Processing and Systems Theory, Image Processing, and Speech Processing".

- Co-Recipient of the ***CVPRW-2011 Best Paper Award*** at the IEEE CVPR-2011 Workshop on Gesture Recognition (Colorado Springs, USA, June 2011). This paper was "Advances in Phonetics-based Sub-Unit Modeling for Transcription Alignment and Sign Language Recognition", co-authored by V. Pitsikalis, S. Theodorakis, C. Vogler and P. Maragos.
- Co-Recipient of the ***Best Paper Award*** at the 9th Panhellenic Conference of Electrical and Computer Engineering Students, Chania, 2016. The paper was "Hard Threshold Least Mean Squares Algorithm", co-authored by L. Flokas and P. Maragos.
- Co-Recipient of the ***ECCVW-2020 Data Modeling Challenge Winner Award*** at the 1st International Workshop on Bodily Expressed Emotion Understanding, 16th European Computer Vision Conference, Aug. 2020. The paper was "Emotion Understanding in Videos Through Body, Context, and Visual-Semantic Embedding Loss", co-authored by P. Filntisis, N. Efthymiou, G. Potamianos and P. Maragos.
- ***CVPR-2022 Best Paper Finalist*** for the paper: F. Paraperas-Papantoniou, P. Filntisis, P. Maragos and A. Roussos, "Neural Emotion Director: Speech-preserving semantic control of facial expressions in "in-the-wild" videos", *Proc. 2022 IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)*, New Orleans, USA, June 2022.
- Co-Recipient of the ***PETRA-2023 Best Paper for Novelty Award*** for the paper: M. Konstantinou, G. Retsinas and P. Maragos, "Enhancing Action Recognition in Vehicle Environments With Human Pose Information", *Proc. 16th Int'l Conf. on PErvasive Technologies Related to Assistive Environments (PETRA 2023)*, Corfu, Greece, July 2023.
- Co-Recipient of the ***PETRA-2025 Best Paper Award*** for the paper: C. Pratikaki, P.P. Filntisis, A. Katsamanis, A. Roussos and P. Maragos, "A Transformer-Based Framework for Greek Sign Language Production using Extended Skeletal Motion Representations", *Proc. 18th ACM Int'l Conf. on PErvasive Technologies Related to Assistive Environments (PETRA 2025)*, Corfu, Greece, June 2025.
- Co-author of a paper that received the *Best Student Paper Award* at the ICCV-2025 Personalization in Generative AI Workshop (Honolulu, Hawaii, Oct. 2025). This paper was "Only-Style: Stylistic Consistency in Image Generation without Content Leakage", co-authored by T. Aravanis, P. Filntisis, P. Maragos and G. Retsinas.
- ***2nd place in CVPR-2026 NTIRE Challenge*** for the paper: K. Chaldaiopoulos, N. Efthymiou, A. Zlatintsi, P. Filntisis, K. Pastra and P. Maragos, "PredJSal: Video Saliency via Predictive Self-Supervised Representation", *Proc. IEEE/CVF CVPR-2026 Workshop on New Trends in Image Restoration and Enhancement (NTIRE)*, Denver, USA, June 2026.

Awards-Honors during studies or teaching

- Recipient of the 1st Honorary Commendation at the 1975 Panhellenic Mathematical Competition for senior high school students organized by the Greek Mathematical Society.
- Recipient of government scholarships in 1977 and 1979 from the Greek National Scholarship Foundation based on academic achievement during his undergraduate studies at NTUA in electrical engineering.
- Recipient of Graduate Research Assistantships at Georgia Tech School of Electrical Engineering, 1980--1985. Ranked 1st at the 1982 entrance exams for the PhD program of Georgia Tech's School of Electrical Engineering from which he graduated with GPA 4.0/4.
- Recipient of the **1983 Sigma Xi Best Thesis Award** (Georgia Tech Chapter) for ``outstanding Masters research in engineering".
- Nominated by students for the 1988 Harvard University Levenson Memorial Teaching Prize for excellence in undergraduate teaching among Harvard University faculty members.

Honors from Scientific & Professional Societies

- Elected to **Fellow of the IEEE** in 1995 "for contributions to the theory and application of nonlinear signal processing systems".

- Elected to President (1994 – 1996) and Vice-President (1993 – 1994) of the International Society for Mathematical Morphology.
- Member of National Council of Research and Technology, Greece, 2005 – 2009; also, member and chairman of its Scientific Council on Mathematics and Information Sciences (2011 – 2014).
- Chairman of Invention Award Committee of Hellenic Industrial Property Organisation, 2007 – 2008.
- Recipient of an Honorary Diploma from the 3rd Forum of Dodecanese Diaspora and the Municipality of Kalymnos, Rhodes, Greece, 1-2 Aug. 2009.
- Elected **Fellow of the European Signal Processing Association (EURASIP)** in 2010 "for contributions to morphological signal processing and nonlinear systems with applications in computer vision, image processing, speech and language processing, multimedia and cognitive systems".
- **IEEE Signal Processing Society Distinguished Lecturer**, January 2017 through December 2018.
- ICASSP 2022 Outstanding Reviewer Recognition.
- **General Chair** of International Flagship Scientific Conferences: **EUSIPCO 2017** and **ICASSP 2023.**
- **Life Fellow IEEE**, 2023
- Included in **Stanford/Elsevier's list of top 2% highly cited scientists worldwide**.
- Named an inaugural **Highly Ranked Scholar by ScholarGPS** (top 0.05% of all scholars worldwide).

Keynote/Plenary Speaker at Conferences, Distinguished Lecturer Talks

- *European Signal Processing Conference (EUSIPCO-1998)*, Rhodes, Greece, Sep. 1998.
- *International Symposium on Computer Graphics, Image Processing and Vision*, Rio de Janeiro, Brazil, Oct. 1998.
- *International Conference on Computing*, Mexico City, Mexico, Nov. 2002.
- *European Signal Processing Conference (EUSIPCO-2010)*, Aalborg, Denmark, Aug. 2010.
- *International Gesture Workshop (GW-2011)*, Athens, May 2011.
- *FIRST: Workshop on Image Processing and Reaction-Diffusion*, Jerusalem, Israel, Sep. 2012
- *Research Workshop on Shape and Image Modeling and Analysis*, Ein-Gedi, Israel, May 2014.
- *8th Panhellenic Conference of University Students in Electrical and Computer Engineering*, Patras, Greece, Apr. 2015.
- *GTTI Thematic Meeting on Multimedia Signal Processing 2017*, IEEE SPS Italy Chapter, Courmayeur, Italy, Jan. 2017.
- *Summer School on Speech Production, Satellite Event of INTERSPEECH 2018*, DA-IICT, Gandhinagar, India, Sep. 2018.
- *IEEE Workshop on Spoken Language Technology (SLT 2018)*, Athens, Dec. 2018.
- *Fifteen (15) IEEE SPS Distinguished Lecturer Talks, Jan. 2017 -- Sep. 2018.* (3 in Italy, 2 in China, 4 in Greece, 2 in India, 4 in USA).
- *IEEE Image, Video and Multidimensional Signal Processing Workshop (IVMSP-2022)*, Nafplio, Greece, June 2022.
- *14th Panhellenic Conference of University Students in Electrical and Computer Engineering*, Volos, Greece, Apr. 2023.
- *Pervasive Technologies Related to Assistive Environments (PETRA 2023) Int'l Conference*, Kerkyra, Greece, July 2023.
- *CaLISTA Workshop on Geometry-Informed Machine Learning (CaLISTA 2024)*, Paris, Sep. 2024.
- *International Conference on Digital Signal Processing (DSP 2025)*, Costa Navarino, Greece, June 2025.
- *Greeks-in-AI Symposium*, Athens, July 2025.
- *International Conference on Unmanned Aircraft Systems (ICUAS 2026)*, Corfu, Greece, 17 June 2026.

III. PROFESSIONAL SOCIETY ACTIVITIES

1. Editorships:

- ***Associate Editor*** for *IEEE Transactions on Pattern Analysis and Machine Intelligence*, 2006 - 2010.
- ***Associate Editor*** for *IEEE Transactions on Acoustics, Speech, and Signal Processing*, 1989 - 1992.
- ***Editorial Board Member*** for *Journal of Mathematical Imaging and Vision*, Springer, 2010 - 2013.
- ***Editorial Board Member*** for *Journal of Visual Communication and Image Representation*, Academic Press, 1990 - 1992.
- ***Editorial Board Member*** for *EURASIP Journal on Signal Processing*, 2005 - 2008.
- Editorial Board Member for Journal Publications of the Greek Technical Chamber, 2004.
- ***Guest Editor*** for IEEE Journal of Selected Topics in Signal Processing, Special Issue on *Mathematical Morphology and its Applications to Image and Signal Processing*, Nov. 2012.
- ***Guest Editor*** for IEEE Transactions on Image Processing, *Special Issue on Nonlinear Image Processing*, June 1996.
- ***Guest Editor*** for EURASIP Journal of Applied Signal Processing, *Special Issue on Object-Based And Semantic Image and Video Analysis*, Nov. 2004.

2. Conference & Workshop Chairman and/or Organization:

- ***General Co-Chairman*** of *SPIE Conference on Visual Communications and Image Processing II (VCIP-1987)*, Cambridge, MA, Sep. 1987.
- ***Co-Chairman*** of *Workshop on Speech Processing and Recognition*, Brown-Harvard-MIT Center for Intelligent Control Systems, Harvard University, Cambridge, MA, Jan. 1990.
- ***General Chairman*** of *SPIE Conference on Visual Communications and Image Processing VII (VCIP-1992)*, Boston, MA, Nov. 1992.
- ***General Co-Chairman*** of *Int'l Symposium on Mathematical Morphology and its Applications to Signal Processing (ISMM-1996)*, Atlanta, GA, May 1996.
- ***General Co-Chairman*** of *Int'l Workshop on Very Low Bit Rate Video Coding (VLBV-2001)*, Athens, Greece, Oct. 2001.
- ***General Co-Chairman*** of *2007 IEEE Int'l Workshop on Multimedia Signal Processing (MMSP 2007)*, Chania, Greece, Oct. 2007.
- ***Program Co-Chair*** of *2010 European Conference on Computer Vision (ECCV-2010)*, Hersonissos, Hraklion Crete, Sep. 2010.
- ***Co-Organizer*** of *Workshop on Sign, Gesture and Activity* (Satellite Workshop of ECCV-2010), Hersonissos, Hraklion Crete, Sep. 2010.
- ***Co-Organizer*** of *2011 Dagstuhl Seminar on "Innovations for Shape Analysis: Models and Algorithms"*, Germany, Apr. 2011.
- ***Co-Organizer*** (Tutorial Co-Chair) of *2012 European Signal Processing Conference (EUSIPCO-2012)*, Bucharest, Romania, Aug. 2012.
- ***Co-Organizer*** of *2014 Dagstuhl Seminar on "New Perspectives in Shape Analysis"*, Germany, Feb. 2014.
- ***Co-Organizer*** of *2015 IROS Workshop on "Cognitive Mobility Assistance Robots"*, Germany, Sep. 2015.
- ***General Co-Chairman*** of *2017 European Signal Processing Conference (**EUSIPCO-2017**)*, Kos, Greece, Aug.-Sep. 2017.
- ***Advisor*** for *2018 IEEE International Conference on Image Processing (ICIP-2018)*, Athens, Greece, Oct. 2018.
- ***Co-Organizer*** of *2018 Dagstuhl Seminar on "Shape Analysis: Euclidean, Discrete and Algebraic Geometric Methods"*, Germany, Oct. 2018.

- ***Co-Chairman*** of *IEEE 14th Image, Video and Multidimensional Signal Processing Workshop (IVMSP)*, Nafplio, Greece, June 2022.
- ***General Chairman*** of *IEEE 48th International Conference on Acoustics, Speech and Signal Processing (**ICASSP-2023**)*, Rhodes, Greece, June 2023.

3. Conference Special Session and Grand Challenges Organizer:

- **EUSIPCO-2008:** Special Session on ***"Audio-Visual Speech Inversion".***
- **ICIP-2009:** Special Session on ***"Adaptive Morphology".***
- **EUSIPCO-2014:** Special Session on ***"Acoustic Scene Analysis in Domestic Environments".***
- **ICASSP-2024: Grand Challenge: 2nd e-Prevention challenge.**

4. IEEE Technical Committees:

- Member of IEEE SPS *Digital Signal Processing Technical Committee*, 1992 -- 2000.
- Member of IEEE SPS *Image & Multidimensional DSP Technical Committee*, 1994 -- 2000.
- Member of IEEE SPS *Multimedia Signal Processing Technical Committee*, 2009 -- 2012.
- Member-at-Large of *IEEE SPS Education Board*, 2020 – 2022: **Co-designed the SPS Education Short Courses.**
- Member of the *IEEE SPS Conference Board* and of the Conferences Board Executive Subcommittee, 2024 – 2025:

5. Member of Int'l Conference Technical/Advisory/Program Committees:

1. 1987 SPIE Conference on Visual Communications and Image Processing (VCIP-97) USA.
2. 1988 SPIE Conference on Visual Communications and Image Processing, USA.
3. 1989 SPIE Conference on Visual Communications and Image Processing, USA.
4. 1990 SPIE Conference on Visual Communications and Image Processing, USA.
5. 1991 SPIE Conference on Visual Communications and Image Processing, USA.
6. 1991 IEEE Workshop on Visual Communications and Image Processing, Taiwan.
7. 1992 SPIE Conference on Visual Communications and Image Processing, USA.
8. 1993 SPIE Conference on Visual Communications and Image Processing.
9. 1993 Int'l Conference on Signal Processing, Beijing (ICSP-93), China.
10. 1993 Int'l Workshop on Math. Morphology and its Application to Signal Processing, Spain.
11. 1994 SPIE Conference on Visual Communications and Image Processing.
12. 1994 Int'l Workshop on Language Engineering and the Information Highway, Santorini, Greece.
13. 1994 Int'l Symposium on Math. Morphology & its Application to Image Processing (ISMM-94), France.
14. 1994 IEEE Int'l Conference on Image Processing, Austin (ICIP-94), Texas.
15. 1995 IEEE Workshop on Nonlinear Signal and Image Processing (NSIP-95), Halkidiki, Greece.
16. 1995 SPIE Conference on Visual Communications and Image Processing.
17. 1996 SPIE Conference on Visual Communications and Image Processing.
18. 1998 Int'l Symposium on Math. Morphology & its Application to Image Processing (ISMM-98), Holland.
19. 2000 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-2000), USA.
20. 2001 Panhellenic Conf. on Automation, Robotics & Industrial Production, Santorini, Greece.
21. 2001 Int'l Workshop on Scale-Space & Morphology Theories in Computer Vision, Canada.
22. 2002 Int'l Conference on Signal Processing (ICSP-2002), Beijing, China.
23. 2002 Int'l Conference on Digital Signal Processing (DSP-2002), Santorini, Greece.
24. 2003 Int'l Conference on Scale-Space Theories in Computer Vision (Scale-Space 2003), Scotland.
25. 2003 IEEE CS Conference on Computer Vision and Pattern Recognition (CVPR 2003), USA.
26. 2003 Int'l Workshop on Variational, Geometric & Level Set Methods in Computer Vision (VLSM 2003), France.
27. 2003 Int'l Conference on Scale-Space Theories in Computer Vision (Scale-Space 2003), Scotland.
28. 2004 IEEE Int'l Conference on Image Processing (ICIP-2004), Singapore.
29. 2005 Int'l Conference on Scale-Space and Diffusion Methods in Computer Vision (Scale-Space 2005), Germany.
30. 2005 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-2005), France.
31. 2005 IEEE CS Conference on Computer Vision and Pattern Recognition (CVPR 2005), USA.
32. 2005 IEEE Int'l Conference on Image Processing (ICIP-2005), Genoa, Italy.
33. 2005 Int'l Workshop on Variational, Geometric & Level Set Methods in Computer Vision (VLSM 2005), China.
34. 2005 Int'l Conference on Computer Vision (ICCV 2005), Peking, China.

35. 2006 European Conference on Computer Vision (ECCV 2006), Gratz, Austria.
36. 2006 IEEE Int'l Conference on Image Processing (ICIP-2006), Toulouse, France.
37. 2006 IEEE CS Conference on Computer Vision and Pattern Recognition (CVPR 2006), USA.
38. 2007 Int'l Conference on Scale-Space and Variational Methods in Computer Vision (SSVM 2007), Italy.
39. 2007 Confer. on Energy Minimiz. Methods in Comp. Vision & Pattern Recognition (EMMCVPR 2007), China.
40. 2007 European Control Conference (ECC 2007), Kos, Greece.
41. 2007 InterSpeech2007-EuroSpeech Int'l Conference, Antwerp, Belgium.
42. 2007 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-2007), Brazil.
43. 2007 Int'l Conference in Computer Vision (ICCV 2007), Rio de Janeiro, Brazil.
44. 2007 IEEE Int'l Workshop on Multimedia Signal Processing (MMSP 2007), Chania, Greece.
45. 2008 European Conference on Signal Processing (EUSIPCO-2008), Lausanne, Switzerland.
46. 2008 Interspeech, Brisbane, Australia.
47. 2008 IEEE Int'l Conf. on BioInformatics and BioEngineering (BIBE 2008), Athens, Greece.
48. 2008 European Conference on Computer Vision (ECCV 2008), Marseille, France.
49. 2008 Int'l Conference on Signal Processing (ICSP-2008), Beijing, China.
50. 2009 Int'l Conference on Digital Signal Processing (DSP-2009), Santorini, Greece.
51. 2009 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-2009), Holland.
52. 2010 LREC 4th Workshop on the Representation and Processing of Sign Languages, Malta, May 2010.
53. 2010 European Conference on Computer Vision (ECCV 2010), Crete, Greece.
54. 2010 Int'l Conference on Signal Processing (ICSP-2010), Beijing, China.
55. 2011 Dagstuhl Seminar on Innovations for Shape Analysis, Germany, Apr. 2011.
56. 2011 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-2011), Italy.
57. 2012 LREC 5th Workshop on the Representation and Processing of Sign Languages, Turkey, May 2012.
58. 2012 Int'l Conference on Signal Processing (ICSP-2012), Beijing, China.
59. 2012 European Conference on Signal Processing (EUSIPCO-2012), Bucharest, Romania.
60. 2013 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-2013), Sweden.
61. 2014 Dagstuhl Seminar on New Perspectives in Shape Analysis, Germany, Feb. 2014.
62. 2014 European Conference on Signal Processing (EUSIPCO-2014), Lisbon, Portugal.
63. 2014 IEEE Int'l Conference on Image Processing (ICIP-2014), Paris, France.
64. 2017 European Conference on Signal Processing (EUSIPCO-2017), Kos, Greece.
65. 2018 European Conference on Signal Processing (EUSIPCO-2018), Rome, Italy.
66. 2018 IEEE Int'l Conference on Image Processing (ICIP-2018), Athens, Greece.
67. 2018 Dagstuhl Seminar on Shape Analysis, Germany, Oct. 2018.
68. 2022 IEEE Image, Video and Multidimensional Signal Processing Workshop, Nafplio, Greece, June 2022.
69. 2023 IEEE International Conference on Acoustics, Speech and Signal Processing, Rhodes, Greece, June 2023.

6. Conference Session Chairman :

1. 1987 SPIE Conference on Visual Communications and Image Processing (VCIP-97), USA.
2. 1988 SPIE Conference on Visual Communications and Image Processing, USA.
3. 1989 SPIE Conference on Visual Communications and Image Processing, USA.
4. 1989 IEEE Conference on Systems, Man and Cybernetics, Boston, USA.
5. 1990 SPIE Conference on Image Algebra and Morphological Image Processing, USA.
6. 1990 IEEE Workshop on Digital Signal Processing, USA.
7. 1991 SPIE Conference on Visual Communications and Image Processing (VCIP-91), USA.
8. 1993 Int'l Workshop on Math. Morphology and its Application to Signal Processing, Spain.
9. 1994 Int'l Symposium on Math. Morphology & its Application to Image Processing (ISMM-94), France.
10. 1994 IEEE Int'l Conference on Image Processing (ICIP-94), Austin, Texas, USA.
11. 1995 IEEE Int'l Conf. on Acoustics, Speech & Signal Processing (ICASSP-95), Detroit, USA.
12. 1996 IEEE Int'l Conf. on Acoustics, Speech & Signal Processing (ICASSP-96), Atlanta, USA.
13. 1996 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-96), USA.
14. 1997 IEEE Int'l Conf. on Acoustics, Speech & Signal Processing (ICASSP-97), Munich, Germany.
15. 1997 European Speech Processing Conference (EUROSPEECH-97), Rhodes, Greece.
16. 1998 Int'l Symposium on Math. Morphology & Its Applications to Image Processing (ISMM-98), Holland.
17. 1998 European Robotics, Intelligent Systems & Control Conference (EURISCON-98), Athens, Greece.
18. 2000 Int'l Symposium on Math. Morphology & its Application to Image Processing (ISMM-2000), USA.
19. 2001 European Worksh. on Intelligent Forecasting, Diagnosis & Control, Santorini, Greece.
20. 2001 Panhellenic Conf. on Automation, Robotics & Industrial Production, Santorini, Greece.
21. 2001 Int'l Workshop on Scale-Space & Morphology Theories in Computer Vision, Vancouver, Canada.
22. 2001 IEEE Int'l Conf. on Image Processing (ICIP-2001), Thessaloniki, Greece.
23. 2002 Int'l Conf. on Digital Signal Processing (DSP-2002), Santorini, Greece.
24. 2003 IEEE Int'l Conf. on Image Processing (ICIP-2003), Barcelona, Spain.

25. 2005 Int'l Symposium on Math. Morphology and its Application to Image Processing (ISMM-2005), France.
26. 2005 IEEE Int'l Conference on Image Processing (ICIP-2005), Genoa, Italy.
27. 2005 InterSpeech2005-EuroSpeech Int'l Conference, Lisbon, Portugal.
28. 2007 IEEE Int'l Workshop on Multimedia Signal Processing (MMSP-2007), Chania, Greece.
29. 2007 Int'l Symposium on Math. Morphology & its Application to Signal/Image Processing (ISMM-2007), Brazil.
30. 2008 European Signal Processing Conference (EUSIPCO-2008), Lausanne, Switzerland.
31. 2008 IEEE Int'l Conference on Image Processing (ICIP-2008), San Diego, USA.
32. 2009 IEEE Int'l Conference on Image Processing (ICIP-2009), Cairo, Egypt.
33. 2010 ECCV'10 Area Chair Colloquium, Ecole Normale Superieure, Paris, June 2010.
34. 2010 European Signal Processing Conference (EUSIPCO-2010), Aalborg, Denmark.
35. 2011 European Signal Processing Conference (EUSIPCO-2011), Barcelona, Spain.
36. 2012 European Signal Processing Conference (EUSIPCO-2012), Bucharest, Romania.
37. 2013 International Conference on Digital Signal Processing (DSP-2013), Santorini, Greece.
38. 2013 European Signal Processing Conference (EUSIPCO-2013), Marrakech, Morocco.
39. 2014 IEEE Int'l Conference on Image Processing (ICIP-2014), Paris, France.
40. 2016 IEEE Int'l Conf. on Acoustics, Speech & Signal Processing (ICASSP-2016), Shanghai, China.
41. 2018 IEEE Int'l Workshop on Signal Processing Advances in Wireless Communications (SPAWC), Kalamata, Greece.
42. 2018 IEEE Int'l Conference on Image Processing (ICIP-2018), Athens, Greece.
43. 2021 IEEE Int'l Conference on Robotics & Automation (ICRA-2021), Xi'an, China.
44. 2021 European Signal Processing Conference (EUSIPCO-2021), Dublin, Ireland.
45. 2022 IEEE/RSJ Int'l Conference on Intelligent Robots and Systems (IROS 2022), Kyoto, Japan.
46. 2023 IEEE Int'l Conf. on Acoustics, Speech & Signal Processing (ICASSP-2023), Rhodes, Greece.
47. 2024 IEEE Int'l Conf. on Acoustics, Speech & Signal Processing (ICASSP-2024), Seoul, Korea.
48. 2024 IEEE/RSJ Int'l Conference on Intelligent Robots and Systems (IROS 2024), Abu Dhabi, UAE.

7. Technical Reviewer:

Journals:

- IEEE Journals:
  - IEEE Transactions on:
    - Signal Processing; Audio, Speech & Language Processing; Image Processing;
    - Pattern Analysis and Machine Intelligence;
    - Communications; Circuits and Systems. Biomedical Engineering.
  - IEEE Signal Processing Letters.
  - IEEE Geoscience and Remote Sensing Letters.
- EURASIP Journals:
  - Signal Processing. Speech Communication.
  - Journal of Applied Signal Processing.
  - Digital Signal Processing
- Pattern Recognition.
- Circuits, Systems and Signal Processing. Systems and Control Letters.
- Computer Vision & Image Understanding; Computer Graphics and Image Processing.
- International Journal of Computer Vision.
- Journal of Visual Communications and Image Representation.
- Journal of Mathematical Imaging and Vision.
- Image and Vision Computing.
- SPIE Journals:
  - Journal of Electronic Imaging; Optical Engineering.
- Journal of Intelligent Systems and Robotics.
- Journal of Optical Society of America. Applied Optics.
- Journal of Acoustical Society of America.
- Multidimensional Systems and Signal Processing
- SIAM Journal of Imaging Sciences.
- Cognitive Processing
- Information Systems

Conferences:

- IEEE Signal, Speech & Processing Conferences: ICASSP, ICIP, MMSP.

- SPIE Conferences: VCIP.
- Computer Vision Conferences: ICCV, ECCV, CVPR, ScaleSpace, VLSM, EMMCVPR.
- EURASIP Conferences: EUSIPCO, EUROSPEECH
- Speech & Language Processing Conferences: INTERSPEECH, ICSLP.
- Robotics Conferences: ICRA, IROS
- ISMM (Int'l Symposia on Mathematical Morphology and its Application to Image Processing)
- DGMM (IAPR Int'l Conference on Discrete Geometry and Mathematical Morphology)
- IEEE Workshop on Multimedia Signal Processing.
- IEEE Workshop on Image, Video and Multidimensional Signal Processing
- Other European Conferences: ECC

Proposals:

- NSF Research Proposals.
- European Research Proposals
- Greek Research Proposals: G.S.R.T. and Ministry of Education.

8. Member of Research Review Panels:

- Review Panel for NSF Presidential Young Investigator Awards.
- Review Panel for NSF Research Initiation Awards.
- Member of GSRT committee for evaluation of National Research Institutes.
- Member of European Commission expert evaluation panels for research proposals.

9. Committees for Evaluation and Election of Faculty Members and Institute Researchers:

- Referee for Faculty Evaluation and Promotion for USA and European Universities.
- Member of Evaluation Committees for Faculty Election and Promotion at Greek Universities.
- Member of Evaluation & Election Committees for Researchers and Directors at Greek Research Institutes.

10. Research & Technology Committees:

- Member of Greek National Council of Research and Technology, 2005 – 2009.
- Member of Greek Scientific Council of National Documentation Centre, 2005 – 2006.
- Chairman of Invention Award Committee of Hellenic Industrial Property Organisation, 2007 – 2008.
- Member of Steering Committee for European Research Network of Excellence "MUSCLE", 2004-08.
- Member of Greek Research Council for Mathematics and Information Sciences, 2011 - 2013.
- Member of Greek Research Council for Artificial Intelligence, 2025 - present.

11. Award Committees:

- IEEE Fellows Nomination Committees
- EURASIP Fellows Selection Committee, 2015--2021.
- ICASSP 2015 Best Student Paper Award Selection Committee.

12. Professional Affiliations:

- Life Fellow of IEEE.
- Member of IEEE Societies: Signal Processing, Communications, Computer, Robotics & Automation
- Fellow of EURASIP (European Association for Signal Processing)
- Member of Technical Chamber of Greece.

IV. PUBLICATIONS AND RESEARCH EXPERIENCE

SYNOPSIS

Number of Publications: (as of July 2026)
He has authored or co-authored ~500 publications as scientific journal papers, book chapters, books, and conference proceeding articles.
The list of his publications related to computer science can also be found at **DBLP** .

Citations (as of July 2026)***: > 23.500, h-index=72***
Source: **Google Scholar**: http://scholar.google.com/citations?user=A2XydgGCY9gC
He is included in **Stanford/Elsevier's list of top 2% highly cited scientists worldwide**.
He is named an inaugural **Highly Ranked Scholar by ScholarGPS** (top 0.05% of all scholars worldwide).

RESEARCH & TEACHING INTERESTS

General:
- Signal Processing, Systems Theory, Pattern Recognition & Machine Learning, Robotics.
- Detection, Estimation. Algorithms. Control.
- Applied Mathematics. Acoustics. Optics.
- Cognitive Systems

Special:
- Image Processing and Computer Vision. Action, Gesture and Emotion Recognition.
- Audio, Music & Speech Processing, Synthesis and Recognition. Natural Language Processing.
- Multisensory Audio and Video Processing, Smart Environments.
- Multimodal Human-Robot Interaction, Robot Perception.
- Visual SLAM. Autonomous Vehicles.
- Nonlinear Systems: Mathematical Morphology. Chaos. Fractals. Lattice Theory.

THESES

1. ``Recognition of Phonemes of the Greek Language by Matched Filters", *Diploma (M.Eng.) Thesis*, National Technical University of Athens, School of Electrical Engineering, Athens, Greece, June 1980. (with T. Anagnostou) (Thesis Advisor: G. Carayannis.)
2. ``On the Adaptive Predictive Coding of Digital Monochrome Still Images", *M.Sc. Thesis*, Georgia Institute of Technology, Atlanta, GA, July 1982.
3. "A Unified Theory of Translation-Invariant Systems with Applications to Morphological Analysis and Coding of Images", *Ph.D. Thesis*, Georgia Institute of Technology, Atlanta, USA, July 1985. (Thesis Advisor: R. W. Schafer.)

Edited BOOKS

1. P. Maragos, (Ed.), *Visual Communications and Image Processing*, Proceedings SPIE vol. 1818, SPIE Optical Engineering Press, Bellingham, Washington, USA, 1992.
2. P. Maragos, R. W. Schafer and M. A. Butt (Eds.), *Mathematical Morphology and its Application to Image and Signal Processing*, Kluwer Academic Publishers, Boston, 1996.
3. P. Maragos, A. Potamianos and P. Gros (Eds.), *Multimodal Processing and Interaction: Audio, Video, Text*, Springer, Boston, MA, 2008. (Multimedia Systems and Applications, vol. 33) https://doi.org/10.1007/978-0-387-76316-3
4. K. Daniilidis, P. Maragos and N. Paragios (Eds.), *Computer Vision – ECCV 2010,* Lecture Notes in Computer Science: Volumes 6311 – 6316, Springer, 2010.
5. R. Bowden, P. Dreuw, P. Maragos and J. Piater (Eds.), *Proceedings of ECCV-2010 Workshop on Sign, Gesture, Activity*, Heraklion, Crete, Sep. 2010. Published as *Trends and Topics in Computer Vision*, (K. Kutulakos, ed.), LNCS vol. 6553**,** Springer, 2012.
6. M. Breuss, A. Bruckstein and P. Maragos (Eds.), *Innovations for Shape Analysis: Models and Algorithms*, Springer, 2013. https://doi.org/10.1007/978-3-642-34141-0
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Authored BOOKS

1. P. Maragos, *Image Analysis and Computer Vision*, Lecture Notes, NTUA, Athens, 2005-2026.

2. P. Maragos, *Topics in Computer Vision and Machine Learning*, [Postgraduate textbook], KALLIPOS, Open Academic Editions, https://doi.org/10.57713/kallipos-1097 .

3. G. Carayannis and P. Maragos, *Basic Principles of Signals and Systems*, (in Greek), Papasotiriou, 2011. Textbook.

4. P. Maragos, V. Charisopoulos, G. Smyrnis and E. Theodosis, *Tropical Geometry and Machine Learning*, Book under preparation.

PUBLICATIONS IN SCIENTIFIC JOURNALS

1. P. Maragos, R. W. Schafer and R. M. Mersereau, "Two-Dimensional Linear Prediction and Its Application to Adaptive Predictive Coding of Images", *IEEE Transactions on Acoustics, Speech, and Signal Processing*, vol.32, no.6, pp.1213-1229, Dec. 1984.
2. P. Maragos and R. W. Schafer, "Morphological Skeleton Representation and Coding of Binary Images", *IEEE Transactions on Acoustics, Speech, and Signal Processing*, vol.34, no.5, pp.1228-1244, Oct. 1986.
3. P. Maragos, "Tutorial on Advances in Morphological Image Processing and Analysis", (Invited Paper), *Optical Engineering*, vol.26, no.7, pp.623-632, July 1987.
4. P. Maragos and R. W. Schafer, "Morphological Filters - Part I: Their Set-Theoretic Analysis and Relations to Linear Shift-Invariant Filters", *IEEE Transactions on Acoustics, Speech, and Signal Processing*, vol.35, no.8, pp.1153-1169, Aug. 1987. (**IEEE SPS Young Author Best Paper Award**).
5. P. Maragos and R. W. Schafer, "Morphological Filters - Part II: Their Relations to Median, Order-Statistic, and Stack Filters", *IEEE Transactions on Acoustics, Speech, and Signal Processing*, vol.35, no.8, pp.1170-1184, Aug. 1987. ("Corrections", vol.37, no.4, p.597, Apr. 1989.) (**Young Author Best Paper Award**)
6. P. Maragos, "A Representation Theory for Morphological Image and Signal Processing", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol.11, no.6, pp.586-599, June 1989.
7. P. Maragos, "Pattern Spectrum and Multiscale Shape Representation", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol.11, no.7, pp.701-716, July 1989.
8. P. Maragos and R. W. Schafer, "Morphological Systems for Multidimensional Signal Processing", *Proceedings of IEEE*, vol.78, no.4, pp.690-710, April 1990.
9. P. Maragos and R. D. Ziff, "Threshold Superposition in Morphological Image Analysis Systems", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, vol.12, no.5, pp.498-504, May 1990.
10. C.-S. Fuh and P. Maragos, "Motion Displacement Estimation Using an Affine Model for Image Matching", (Invited Paper), *Optical Engineering*, vol.30, no.7, pp.881-887, July 1991.
11. P. Maragos and F. K. Sun, "Measuring the Fractal Dimension of Signals: Morphological Covers and Iterative Optimization", *IEEE Transactions on Signal Processing*, vol.41, no.1, pp.108-121, Jan. 1993.
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465. D. N. Makropoulos, P. P. Filntisis, A. Prospathopoulos, D. Kassis, A. Tsiami, and P. Maragos, "Improving Classification of Marine Mammal Vocalizations Using Vision Transformers and Phase-Related Features", *Proceedings of 25th Int'l Conf. on Digital Signal Processing (DSP 2025)*, Costa Navarino, Greece, June 2025.
466. K. Fotopoulos, C. Garoufis and P. Maragos, "Sparse Hybrid Linear-Morphological Networks", *Proceedings of 33rd European Signal Processing Conference (EUSIPCO 2025)*, Isola delle Femmine – Palermo, Italy, Sep. 2025.
467. S. Zarifis, I. Kordonis and P. Maragos, "Diffusion-Based Forecasting for Uncertainty-Aware Model Predictive Control", *Proceedings of 33rd European Signal Processing Conference (EUSIPCO 2025)*, Isola delle Femmine – Palermo, Italy, Sep. 2025.
468. N. Giannakakis, A. Manetas, P. P. Filntisis, P. Maragos and G. Retsinas, "Object-Centric Action-Enhanced Representations for Robot Visuo-Motor Policy Learning", *Proceedings of 2025 IEEE International Conference on Development and Learning (ICDL)*, Prague, Czechia, Sep. 2025.

469. O. Konstantaropoulos, M. Khamassi, P. Maragos and G. Retsinas,"Push, See, Predict: Emergent Perception Through Intrinsically Motivated Play", *Proceedings of 2025 IEEE International Conference on Development and Learning (ICDL)*, Prague, Czechia, Sep. 2025.
470. G. Moustris, T. Flessa, P. Mermigkas, I. Alamanos, N. Kardaris, A. Vatistas, C. Tzafestas, P. Maragos, G. Bonias, A. Skembris, A. Geladaris, A. Mastrogeorgiou, J. Rong, P. Bagiokos, D. Makrygiorgou, S. Panidis, D. Melissaris, "An autonomous inspection robot for extra-high voltage substations", *Proc. 2025 IEEE PES Innovative Smart Grid Technologies Europe (ISGT Europe) Conference*, Valletta, Malta, Oct. 2025.
471. M. Glytsos, P. P. Filntisis, G. Retsinas and P. Maragos, "Category-Level 6D Object Pose Estimation in Agricultural Settings Using a Lattice-Deformation Framework and Diffusion-Augmented Synthetic Data", *Proceedings of IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2025)*, Hangzhou, China, Oct. 2025.
472. T. Aravanis, P. Filntisis, P. Maragos and G. Retsinas, "Only-Style: Stylistic Consistency in Image Generation without Content Leakage", *Proc. IEEE/CVF Int'l Conference on Computer Vision (ICCV 2025), Personalization in Generative AI Workshop (P13N)*, Honolulu, Hawaii, Oct. 2025. (**Best Student Paper Award**).
473. K. Papadimitriou, P. Filntisis, G. Retsinas, G. Potamianos and P. Maragos, "Seeing in 2D, Thinking in 3D: 3D Hand Mesh-Guided Feature Learning for Continuous Fingerspelling", *Proc. IEEE/CVF Int'l Conference on Computer Vision (ICCV 2025), Workshop on Vision Foundation Models and Generative AI for Accessibility: Challenges and Opportunities (CV4A11y)*, Honolulu, Hawaii, Oct. 2025.
474. K. Spathis, N. Kardaris and P. Maragos, "Multi-task Learning for Joint Action and Gesture Recognition", *Proc. IEEE/CVF Int'l Conference on Computer Vision (ICCV 2025), Workshop on Affective Behavior Analysis in-the-wild (ABAW)*, Honolulu, Hawaii, Oct. 2025.
475. D. Brilli, N. Mallis, V. Pitsikalis and P. Maragos, "GHR-VQA: Graph-guided Hierarchical Relational Reasoning for Video Question Answering", *Proc. 2025 British Machine Vision Conference (BMVC) Workshop "From Scene Understanding to Human Modeling"*, Sheffield, UK, Nov. 2025.
476. B. Psomas, G. Retsinas, N. Efthymiadis, P. Filntisis, Y. Avrithis, P. Maragos, O. Chum, G. Tolias, "Instance-Level Composed Image Retrieval", *Proceedings of the 39th Conference on Neural Information Processing Systems (NeurIPS 2025)*, Dec. 2025.
477. N. Chatzis, I. Kordonis, E. Theodosis, and P. Maragos, "Shared-Weights Extender And Gradient Voting for Neural Network Expansion", *Proc. 2026 IEEE Int'l Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Barcelona, Spain, May 2026.
478. D. N. Makropoulos, C. Garoufis, A. Tsiami, P. P. Filntisis, and P. Maragos, "Representation-Diverse Self-Supervision for Cross-Domain Bioacoustic Learning In Low-Resource Settings", *Proc. 2026 IEEE Int'l Conference on Acoustics, Speech and Signal Processing (ICASSP)*, Barcelona, Spain, May 2026.
479. P.P. Filntisis, G. Retsinas, R. Danecek, V. Sklyarova, P. Maragos, T. Bolkart, "MOCHI: Registration-Free Learnable Multi-View Capture of Faces in Dense Semantic Correspondence", *Proc. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2026)*, Denver, USA, June 2026.
480. G. Chatzichristodoulou, N. Efthymiou, P. Filntisis, G. Pavlakos and P. Maragos, "Age-Inclusive 3D Human Mesh Recovery for Action-Preserving Data Anonymization", *Proc. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2026), Workshop on Computer Vision for Children (CV4CHL)*, Denver, USA, June 2026.
481. K. Chaldaiopoulos, N. Efthymiou, A. Zlatintsi, P. Filntisis, K. Pastra and P. Maragos, "PredJSal: Video Saliency via Predictive Self-Supervised Representation", *Proc. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2026), Workshop on New Trends in Image Restoration and Enhancement (NTIRE)*, Denver, USA, June 2026. **(2nd place in CVPR-2026 NTIRE Challenge).**
482. V. Vasileiou, P. Filntisis, P. Maragos and K. Daniilidis, "VGGT-HPE: Reframing Head Pose Estimation as Relative Pose Prediction," *Proc. IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR 2026), Workshop on Affective & Behavior Analysis in-the-wild (ABAW)*, Denver, USA, June 2026.
483. S. Zarifis, I. Kordonis and P. Maragos, "Diffusion-Based Scenario Tree Generation for Multivariate Time Series Prediction and Multistage Stochastic Optimization", *Proc. 34th European Signal Processing Conference (EUSIPCO 2026)*, Bruges, Belgium, Sep. 2026.
484. N. Tsalkitzis, P. P. Filntisis, P. Maragos and N. Efthymiou, "Uncertainty-Driven Anomaly Detection for Psychotic Relapse Using Smartwatches: Forecasting and Multi-Task Learning Fusion", *Proc. 34th European Signal Processing Conference (EUSIPCO 2026)*, Bruges, Belgium, Sep. 2026.

485. I. Chourdaki, K. Avramidis, C. Garoufis, A. Zlatintsi and Petros Maragos, "Teager-Kaiser Energy Methods for EEG Feature Extraction in Biomedical Applications", *Proc. 34th European Signal Processing Conference (EUSIPCO 2026)*, Bruges, Belgium, Sep. 2026.
486. P. Georgoulas Wraight, G. Sfikas, I. Kordonis, P. Maragos and G. Retsinas, "Optimal Transport for handwritten text recognition in a low-resource regime", *Proc. 34th European Signal Processing Conference (EUSIPCO 2026)*, Bruges, Belgium, Sep. 2026.
487. P. Livitsanos, A. A. Rontogiannis, and P. Maragos, "Unsupervised Unmixing-Based Watershed Segmentation of Hyperspectral Images", *Proc. 34th European Signal Processing Conference (EUSIPCO 2026)*, Bruges, Belgium, Sep. 2026.
488. P. Mermigkas, A. Manetas, and P. Maragos, "GLAM-SLAM: Real-time Gaussian Large-scale Mapping via Flow Densification and Spatial Decomposition", Proc. 2026 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2026), Pittsburgh, USA, Sep. 2026.
489. N. Chatzis, A. Tsinouka, K. Papadimitriou, N. Efthymiou, M. Glytsos, G. Retsinas, P. Oikonomou, G. Potamianos, P. Maragos and P. P. Filntisis, "Mind the Shape Gap: A Benchmark and Baseline for Deformation-Aware 6D Pose Estimation of Agricultural Produce", Proc. 2026 IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS 2026), Pittsburgh, USA, Sep. 2026.

CONFERENCE PRESENTATIONS WITHOUT PROCEEDINGS

- P. Maragos, "Applications of Morphological Image and Signal Analysis", *Annual Research Review Conference of NSF Systems Research Center*, Univ. of Maryland, May 1988.
- P. Maragos, "Mathematical Morphology Applied to Multi-Scale Image Representation and Shape Description", *Morphology Workshop*, Univ. of Alabama, Huntsville, July 1988.
- P. Maragos, "Introduction to Fractals", *ARO Workshop on Fractals and Chaos in Science and Engineering*, Research Triangle Parc, NC, May 1991.
- T. F. Quatieri, J. F. Kaiser, and P. Maragos, ``Transient Detection in AM--FM Background using an Energy Operator'', *IEEE Underwater Acoustic Signal Processing Workshop*, Univ. of Rhode Island, Oct. 1991.
- A. Potamianos, G. Bouselmi, D. Dimitriadis, D. Fohr, R. Gemello, I. Illina, F. Mana, P. Maragos, M. Matassoni, V. Pitsikalis, J. Ramirez, E. Sanchez-Soto, J. Segura, P. Svaizer, "Towards speaker and environmental robustness in ASR: the HIWIRE project", *Proceedings of SRIV'06 ITRW on Speech Recognition and Intrinsic Variation*, May 2006.
- A. Tsiami, A. Katsamanis, I. Rodomagoulakis, G. Potamianos, and P. Maragos, "Home sweet home… Listen!", *Show and Tell at 41st International Conference on Acoustics, Speech and Signal Processing (ICASSP 2016)*, Shanghai, China, Mar. 2016.
- "Segmentation and Skeletonization on Arbitrary Graphs Using Multiscale Morphology and Active Contours", *Dagstuhl Seminar 11142 - "Innovations for Shape Analysis: Models and Algorithms"*, Dagstuhl Schloss, Germany, 06 Apr. 2011.
- "On Shape Recognition and Language", *Dagstuhl Seminar 14072 - "New Perspectives in Shape Analysis"*, Dagstuhl Schloss, Germany, 13 Feb. 2014.
- "Discretization of Morphology-type PDEs and Active Contours on Graphs", *SIAM Conference on Imaging Science 2018*, Minisymposium "MS48 - Recent Advances in Mathematical Morphology: Algebraic and PDE-based Approaches", 7 June 2018.
- "Mathematical Morphology, Tropical Geometry and Weighted Lattices", *Dagstuhl Seminar 18422 - "Shape Analysis: Euclidean, Discrete and Algebraic Geometric Methods"*, Dagstuhl Schloss, Germany, 17 Oct. 2018.

PAPERS REPRINTED IN EDITED BOOKS

1. P. Maragos, R. W. Schafer and R. M. Mersereau, "Two-Dimensional Linear Prediction and Its Application to Adaptive Predictive Coding of Images", IEEE Transactions on Acoustics, Speech, and Signal Processing, vol.32, pp.1213-1229, Dec. 1984. In *Image Compression*, M. Rabbani, Ed., SPIE Optical Engineering Press (Milestone Series), Bellingham, WA, USA.

2. P. Maragos and R. W. Schafer, "Morphological Skeleton Representation and Coding of Binary Images", IEEE Transactions on Acoustics, Speech, and Signal Processing, vol.34, pp.1228-1244, Oct. 1986. In *Selected Papers on Visual Communication: Technology and Applications*, T. R. Hsing and A. G. Tescher, Eds., SPIE Optical Engineering Press (Milestone Series), 1990.
3. P. Maragos, "Tutorial on Advances in Morphological Image Processing and Analysis", Optical Engineering, vol.26, pp.623-632, July 1987. In *Selected Papers on Visual Communication: Technology and Applications*, T. R. Hsing and A. G. Tescher, Eds., SPIE Optical Engineering Press (Milestone Series), 1990.
4. P. Maragos and R. W. Schafer, "Morphological Systems for Multidimensional Signal Processing", Proceedings of IEEE, vol.78, pp.690-710, April 1990. In *Digital Image Processing*, R. Chellapa, Ed., IEEE Computer Society Press, Los Alamitos, CA, USA, 1992.
5. P. Maragos and R. W. Schafer, "Morphological Filters - Part I: Their Set-Theoretic Analysis and Relations to Linear Shift-Invariant Filters", IEEE Transactions on Acoustics, Speech, and Signal Processing, vol.35, pp.1153-1169, Aug. 1987. In *Selected Papers on Morphological Image Processing: Principles and Optoelectronic Implementations*, T. Szoplik, Ed., SPIE Optical Engineering Press (Milestone Series Vol. MS 127), Bellingham, WA, USA, 1996.
6. P. Maragos and R. W. Schafer, "Morphological Filters - Part II: Their Relations to Median, Order-Statistic, and Stack Filters", IEEE Transactions on Acoustics, Speech and Signal Processing, vol.35, pp.1170-1184, Aug. 1987. In *Selected Papers on Morphological Image Processing: Principles and Optoelectronic Implementations*, T. Szoplik, Ed., SPIE Optical Engineering Press (Milestone Series Vol. MS 127), Bellingham, WA, USA, 1996.
7. P. Maragos and R. W. Schafer, "Morphological Systems for Multidimensional Signal Processing", Proceedings IEEE, vol. 78, pp. 690-710, April 1990. In *Selected Papers on Morphological Image Processing: Principles and Optoelectronic Implementations*, T. Szoplik, Ed., SPIE Optical Engineering Press (Milestone Series Vol. MS 127), Bellingham, WA, USA, 1996.
8. P. Maragos and F. K. Sun, "Measuring the Fractal Dimension of Signals: Morphological Covers and Iterative Optimization", IEEE Transactions on Signal Processing, vol.41, no.1, pp.108--121, Jan. 1993. In *Selected Papers on Morphological Image Processing: Principles and Optoelectronic Implementations*, T. Szoplik, Ed., SPIE Optical Engineering Press (Milestone Series Vol. MS 127), Bellingham, WA, USA, 1996.

TECHNICAL REPORTS AND OTHER PUBLICATIONS

1. C.S. Fuh, P. Maragos and L. Vincent, "Region based approaches to visual motion correspondence", *Technical Report 91- 18*, pp.1-30, Harvard Robotics Laboratory, Nov. 1991.
2. P.-F. Yang and P. Maragos, "Weighted Min-Max Classifiers", unpublished Tech. Report, 1995.
3. L. F. C. Pessoa, F. C. L'ucio, A. B. Martin, A. C. Mark, P. Maragos, M. M. Russell, " Multilayer Perceptrons versus Hidden Markov Models: Comparisons and Applications to Image Analysis and Visual Pattern Recognition", Report, Georgia Institute of Technology, Aug. 1995.
4. J. C. Segura, T. Ehrette, A. Potamianos, D. Fohr, I. Illina, P.A. Breton, V. Clot, R. Gemello, M. Matassoni, P. Maragos, "The HIWIRE database, a noisy and non-native English speech corpus for cockpit communication", 2007.
5. N. Vasiloglou and P. Maragos, Spectrum of Fractal Interpolation Functions, arXiv preprint arXiv:0906.5278, June 2009.
6. I. Kokkinos, R. Deriche, T. Papadopoulo, O. Faugeras and P. Maragos, "Towards bridging the gap between biological and computational image segmentation", 2007.
7. K. Daniilidis, P. Maragos, N. Paragios, "Novel Representations, Methods, and Algorithms in Computer Vision (Introduction to a Special Issue)", *International Journal of Computer Vision*, Springer, Volume 103, Issue 2, pp 177-177, 2013.

RESEARCH GRANTS

1. Title: *"Presidential Young Investigator Award: Morphological Signal and Image Processing"*
Sponsor: National Science Foundation.
Time/Place: 1987--1992 at Harvard University.
P. Maragos' participation: Principal Investigator (PI).

2. Title: *"Morphology-based Image Processing VLSI Chip Architecture"*

Sponsor: Bell Communications Research.
Time/Place: 1987--1989 at Harvard University.
P. Maragos' participation: Principal Investigator.

3. Title: *"Shape Analysis and Recognition"*
Sponsor: Xerox
Time/Place: 1987--1992 at Harvard University.
P. Maragos' participation: Principal Investigator.

4. Title: *Computer Equipment Grant*
Sponsor: Sun Microsystems.
Time/Place: 1988--1991 at Harvard University.
P. Maragos' participation: Principal Investigator.

5. Title: *"Motion Analysis in Satellite Imagery"*
Sponsor: The Analytic Sciences Corporation.
Time/Place: 1990-91 at Harvard University.
P. Maragos' participation: Principal Investigator.

6. Title: *Computer Equipment Grant*
Sponsor: Digital Equipment Corporation.
Time/Place: 1990-91 at Harvard University.
P. Maragos' participation: Principal Investigator.

7. Title: *"Nonlinear Speech Modeling with Application to Speaker Identification"*
Sponsor: MIT Lincoln Laboratory.
Time/Place: 1991-92 at Harvard University.
P. Maragos' participation: Principal Investigator.

8. Title: Brown-Harvard-MIT *"Center for Intelligent Systems"*
Sponsor: Army Research Office.
Time/Place: 1992-93 at Harvard University.
P. Maragos' participation: Co-Investigator.

9. Title: *"Nonlinear Systems for Speech Signal Processing"*
Sponsor: National Science Foundation.
Time/Place: 1992-93 (Year I) at Harvard University.
P. Maragos' participation: Principal Investigator.

Title: *"Nonlinear Systems for Speech Signal Processing"*
Sponsor: National Science Foundation
Time/Place: (Years II and III) at Georgia Institute of Technology.
P. Maragos' participation: Principal Investigator.

10. Title: *"Co-Channel Demodulation and AM--FM Feature Extraction Using Energy Operators and Energy Separation"*
Sponsor: Center for Research on Applied Signal Processing / U.S.C.
Time/Place: 1994-95 at Georgia Institute of Technology.
P. Maragos' participation: Principal Investigator.

11. Title: *"Multidimensional Digital Signal Processing Devices for Information Processing, and Electromagnetic Analysis and Measurement"*
Sponsor: Joint Services Electronics Program.
Time/Place: 1996-98 at Georgia Institute of Technology.
P. Maragos' participation: Co-Investigator.

12. Title: *"Morphological Signal Processing: Slope Transforms, Max--Min Dynamics, and Differential Morphology"*
Sponsor: National Science Foundation.
Time/Place: 1995-98 at Georgia Institute of Technology.
P. Maragos' participation: Principal Investigator.

13. Title: *"AKODIFON: Improvement of Phonemic Recognition by Developing and Using Modulation and Fractal Acoustic Features"*
Sponsor: GSRT. and European Union (ΕΠΕΤ ΙΙ - 1998)

Time/Place: 1999-2001, National Technical University of Athens.
P. Maragos' participation: Scientific Director and Principal Investigator (PI).

14. Title: *" Evaluation of the Biological Quality of Soils with New Computer Vision Techniques '*
Sponsor: GSRT. and European Union (ΠΕΝΕΔ - 1999)
Time/Place: 2000-2001, Institute of Communication & Computer Systems (ICCS) - NTUA.
P. Maragos' participation: Scientific Director of NTUA's team, Project PI and Coordinator.

15. Title: *"Aerodynamic Analysis of Human Vocal Tract with Navier-Stokes Equations and Relations to Speech Production"*
Sponsor: ICCS-NTUA (Basic Research Program ARCHIMEDES)
Time/Place: 2000-2001, ICCS - NTUA.
P. Maragos' participation: Co-Principal Investigator (Co-PI).

16. Title: *"Development of Novel Methods of Digital Processing of Nonstationary Signals for Improving the Accuracy and Resolution of Ultrasound Doppler Spectroscopy in Measuring Blood Flow"*
Sponsor: ICCS-NTUA (Basic Research Program ARCHIMEDES)
Time/Place: 2000-2001, ICCS-NTUA.
P. Maragos' participation: Principal Investigator.

17. Title: *"Integrated System for Control of the Ecologic Quality of Soils"*
Sponsor: GSRT and European Union (ΠΕΝΕΔ - 2001)
Time/Place: 2002 – 2006, ICCS-NTUA and Aristotle Univ. of Thessaloniki.
P. Maragos' participation: PI of NTUA's team.

18. Title: *"COST 277: Nonlinear Speech Processing"*
Sponsor: European Union
Time: 2002 – 2005.
P. Maragos' participation: PI of NTUA's team.

19. Title: *"Synergy Between Image Segmentation and Object Recognition Using Geometrical and Statistical Computer Vision Techniques"*
Sponsor: Greek Ministry of Education (Basic Research Program "Hrakleitos")
Time/Place: 2003 – 2006, National Technical University of Athens
P. Maragos' participation: Scientific Director and PI.

20. Title: *"**MUSCLE**: Multimedia Understanding, Semantics, Computation and Learning"*
Sponsor: European Union FP6: Network of Excellence,
Time/Place: 2004 – 2008, Institute of Communication & Computer Systems (ICCS) - NTUA
P. Maragos' participation: Scientific Director and PI of ICCS-NTUA's Team and WP Leader.

21. Title: *"**HIWIRE**: Human Input That Works In Real Environments"*
Sponsor: European Union FP6: Specific Targeted Research-Innovation Project (STREP),
Time/Place: 2004 – 2007, ICCS - NTUA
P. Maragos' participation: Scientific Director and PI of ICCS-NTUA's Team.

22. Title: *"Advanced Optical Imaging and Computer Vision Methods With Applications to Cancer Diagnosis"*
Sponsor: Greek Ministry of Education (Basic Research Program "Pythagoras")
Time/Place: 2004 – 2007, National Technical University of Athens
P. Maragos' participation: Co-PI

23. Title: *"Nonlinear Systems for Analysis of Microstuctures in Speech and Image Signals"*
Sponsor: NTUA Basic Research Program "Protagoras"
Time/Place: 2004 – 2007, National Technical University of Athens
P. Maragos' participation: Scientific Director and PI.

24. Title: *"**ASPI**: Audiovisual to Articulatory Speech Inversion"*
Sponsor: European Union FP6: Future and Emergent Technologies (FET Open),
Time/Place: 2005 – 2008, ICCS - NTUA
P. Maragos' participation: Scientific Director and PI of ICCS-NTUA's Team, and WP Leader.

25. Title: *"Computer Vision and Virtual Reality for Three-Dimensional Reconstruction of Archeological Findings with Applications to Wall Paintings and Buildings of the Prehistoric Settlement of Akrotiri in Santorini"*
Sponsor: Gen. Secretariat for Research and Technology and European Union (ΠΕΝΕΔ-2003)
Time/Place: 2005-2009, National Technical University of Athens.
P. Maragos' participation: Scientific Director of NTUA's team, Project PI and Coordinator.

26. Title: *"Speech Modeling, Recognition and Synthesis with Computational Aerodynamic Analysis of Human Vocal Tract"*
Sponsor: Gen. Secretariat for Research and Technology and European Union (ΠΕΝΕΔ-2003)
Time/Place: 2005-2009, NTUA and Technical University of Crete.
P. Maragos' participation: Co-PI and Scientific Director of NTUA's team.

27. Title: *"Novel Signal and Image Analysis Methods for Space Satellite Data Transmission and Processing"*
Sponsor: GSRT and European Union (ΠΕΝΕΔ - 2003)
Time/Place: 2006-2009, NTUA and National Observatory of Athens.
P. Maragos' participation: Co-PI and Scientific Director of NTUA's team.

28. Title: *"**DIANOEMA:** Visual Gesture Analysis and Recognition for Sign Language Modeling and Application to Robot Teleoperation"*
Sponsor: Greek General Secretariat for Research and Technology
Time/Place: 2006-2008, ICCS - NTUA.
P. Maragos' participation: Project PI and Coordinator, Scientific Director of ICCS-NTUA's team.

29. Title: *"**GridNews:** Distributed GRID Platform for Advanced Content Management and Retrieval in Audiovisual Broadcast News"*
Sponsor: Greek General Secretariat for Research and Technology
Time/Place: 2006-2008, ICCS - NTUA.
P. Maragos' participation: Co-Principal Investigator.

30. Title: ***"Dicta-Sign**: Sign Language Recognition, Generation and Modeling with Application in Deaf Communication"* (http://www.dictasign.eu/)
Sponsor: European Union FP7: Specific Targeted Research-Innovation Project (STREP),
Time/Place: 2009 – 2012, National Technical University of Athens
P. Maragos' participation: Scientific Director and PI of NTUA's Team, and WP Leader.

31. Title: *"**TIMELY**: Time In MEntaL activitY: theoretical, behavioral, bioimaging and clinical perspectives*",
Sponsor: ESF-Cost Action (European Network)
Time: 2010 – present.
P. Maragos' participation: PI of NTUA's Team.

32. Title: *"Music Signal Processing and Applications in Recognition"*
Sponsor: Greek Ministry of Education (Basic Research Program "Hrakleitos II")
Time/Place: 2010 – 2013, National Technical University of Athens
P. Maragos' participation: Scientific Director and PI.

33. Title: *"**DIRHA**: Distant-Speech Interaction for Robust Home Applications"* (http://dirha.fbk.eu/)
Sponsor: European Union FP7: Specific Targeted Research-Innovation Project (STREP)
Time/Place: 2012 – 2014, Athena Research and Innovation Center- Image Analysis & Modeling Unit.
P. Maragos' participation: Scientific Director and PI of Athena RC - IAMU's team, and WP Leader.

34. *"**COGNIMUSE**: Multimodal Signal and Event Processing In Perception and Cognition"*
(http://cognimuse.cs.ntua.gr/)
Sponsor: Greek Ministry of Education and Ministry of Development (Basic Research Program "ARISTEIA")
Time/Place: 2012 – 2015, National Technical University of Athens
P. Maragos' participation: Scientific Director and Principal Investigator.

35. Title: "***MOBOT***: Intelligent Active MObility Assistance RoBOT integrating Multimodal Sensory Processing, Proactive Autonomy and Adaptive Interaction"
Sponsor: European Union FP7: Specific Targeted Research-Innovation Project (STREP),
Time/Place: 2013 – 2016, ICCS - NTUA
P. Maragos' participation: Scientific Director and PI of ICCS-NTUA's Team, and WP Leader.

36. Title "**BabyAffect**: Affective and behavioral modeling of early childhood lexicalizations and communicative functions with application to autism spectrum disorders and language delay detection"
Sponsor: Greek Ministry of Education and Ministry of Development (Basic Research Program "ARISTEIA II")
Time/Place: 2014 – 2015, National Technical University of Athens
P. Maragos' participation: Co-PI of the NTUA team

37. Title: *"**I-SUPPORT**"*
Sponsor: European Union Horizon 2020,
Time/Place: 2015 – 2018, ICCS - NTUA
P. Maragos' participation: Co-PI of ICCS-NTUA's Team.

38. Title: *"**BabyRobot**: Child-Robot Communication and Collaboration"* (http://babyrobot.eu/)
Sponsor: European Union Horizon 2020 (Research and Innovation Action)
Time/Place: 2016 – 2018, "Athena" Research Center - Information Analysis & Modeling Unit.
P. Maragos' participation: Scientific Director and PI of Athena RC – RPI Unit's team.

39. Title: *"**iMuSciCA**: Interactive Music Science Collaborative Activities"* (http://www.imuscica.eu/)
Sponsor: European Union Horizon 2020
Time/Place: 2017 – 2019, Athena Research Center -- Robot Perception & Interaction Unit.
P. Maragos' participation: Co-PI of Athena RC team.

40. Title: *"**i-Walk**: Intelligent Robotic Walker for mobility and cognitive assistance of elderly and motor-impaired people"* (https://www.i-walk.gr/)
Sponsor: Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation under the call RESEARCH – CREATE – INNOVATE
Time/Place: 2018 – 2021, ICCS - NTUA.
P. Maragos' participation: Scientific Director and Principal Investigator.

41. Title: "***e-Prevention***: *Prevention in Patients with Psychotic Disorders using Long Term Recording and Analysis of Biometric Indexes"* (https://eprevention.gr/)
Sponsor: Greek national funds through the Operational Program Competitiveness, Entrepreneurship and Innovation under the call RESEARCH – CREATE – INNOVATE
Time/Place: 2018 – 2021, NTUA.
P. Maragos' participation: Scientific Director and Principal Investigator.

42. Title: "***TeachBot***: *Intelligent Child-Robot Interaction System for designing and implementing edutainment scenarios with emphasis on visual information"* (http://robotics.ntua.gr/teachbot-2/)
Sponsor: European Union (European Social Fund- ESF) and Greek national funds through the Operational Programme «Human Resources Development, Education and Lifelong Learning 2014 2020.
Time/Place: 2020 – 2021, NTUA.
P. Maragos' participation: Scientific Director and Principal Investigator.

43. Title: "***SoftGrip:*** *Functionalised Soft robotic gripper for delicate produce harvesting powered by imitation learning based control"* (https://www.softgrip-project.eu/)
Sponsor: European Union Horizon 2020,
Time/Place: 2021 – 2023, ICCS - NTUA
P. Maragos' participation: Co-PI of ICCS-NTUA's Team

44. Title: *"**EASIER**: intElligent Automatic SIgn languagE tRanslation"* (https://www.project-easier.eu/)
Sponsor: European Union Horizon 2020
Time/Place: 2021 – 2023, Athena Research Center -- Robot Perception & Interaction Unit.
P. Maragos' participation: Co-PI of Athena RC team.

45. Title: *"**TROGEMAL-Tropical Geometry and Machine Learning**"*
Sponsor: Hellenic Foundation for Research and Innovation
Time/Place: 2021 – 2025, NTUA.
P. Maragos' participation: Scientific Director and Principal Investigator.

46. Title: *"**ENORASI: Integrated Robotic System for Autonomous Inspection and Fault Diagnosis of Electric Power Substations**"*
Sponsor: Greece 2.0 National Recovery and Resilience Plan, Next Generation EU
Time/Place: 2022 – 2025, ICCS - NTUA.
P. Maragos' participation: Co-PI of ICCS-NTUA's Team.

47. Title: *"**GRAND-BonsAPPs challenge**"*
Sponsor: BonsAPPs Call for AI Talents
Time/Place: 2022, ICCS-NTUA

48. Title: *"**PILLAR-Robots: Purposeful Intrinsically motivated Lifelong Learning Autonomous Robots**"*
(https://pillar-robots.eu/)
Sponsor: Horizon Europe
Time/Place: 2022 – 2026, Athena Research Center -- Robot Perception & Interaction Unit.
P. Maragos' participation: Scientific Director and PI of Athena RC – RPI Unit's team.

49. Title: *"**ARS: Applied Research for Autonomous Robotic Systems**"*
Sponsor: Hellenic Ministry of Development and Investment, *Recovery and Resilience Facility*
Time/Place: 2023 – 2025, Athena Research Center – Institute of Robotics.
P. Maragos' participation: Scientific Director and Principal Investigator.

50. Title: *"**SynthPose**"*
Sponsor: euROBIN Programme
Time/Place: 2024-2025, ICCS-NTUA
P. Maragos' participation: PI of ICCS-NTUA team.

51. Title: *"**HERON: Hellenic Robotics Center of Excellence in the AI era**"*
Sponsor: Horizon Europe (Teaming for Excellence) and Greek Secretariat for Research & Innovation
Time/Place: 2025 – 2030, Athena Research Center and HERON.
P. Maragos' participation: Director and Principal Investigator.

52. Title: *"**REWIRE: Reproducibility Enablement for Widespread Implementation, Reuse and Evidence in the European Research Area**"*
Sponsor: Horizon Europe
Time/Place: 2026 – 2029, Athena Research Center- Institute of Robotics.
P. Maragos' participation: Scientific Director and PI of Athena RC – Robotics Institute team.

53. Title: *"**ADA-COLLAB: Next-Generation Architecture for Dependable, Autonomous and Collaborative AI Agents**"*
Sponsor: Horizon Europe
Time/Place: 2027 – 2030, Athena Research Center – Excellence Unit HERON.
P. Maragos' participation: Scientific Director and PI of Athena RC – HERON team.

V. TEACHING EXPERIENCE

COURSES TAUGHT

1. Harvard University, *Division of Applied Sciences*

- *Applied Algebra and Combinatorics*, (Undergraduate), 1985, 86, 87.
- *Computer Vision*, (Graduate), 1988 (co-instructor).
- *Computer Speech Generation and Recognition*, (Graduate/Undergrad.), 1987,8,9,90,91.
- *Signals and Systems*, (Undergraduate), Spring 1988, 89, 90, 91, 92, 93.
- *Physical and Biological Models of Computation*, (Graduate), 1989-90 (co-instructor).

2. Georgia Institute of Technology, *School of Electrical & Computer Engineering*

- *Circuits, Signals, and Systems II*, (Undergraduate), Fall 1993.
- *Morphological Signal Processing: Image Analysis and Nonlinear Filtering*, (Graduate), 1994, 1995.
- *Random Signals and Noise*, (Undergraduate), Spring & Fall 1994.
- *Signals and Systems I*, (Undergraduate), Spring 1995.

3. National Technical University of Athens, *School of ECE*

- *Topics in Image Analysis and Computer Vision*, (Graduate), 1992.
- *Network Theory*, (Undergraduate), 1998 - 2000.
- *Introduction to Automatic Control Systems*, (Undergraduate), 2005 (co-instructor).
- *Signals and Systems*, (Undergraduate), 2001 - present.
- *Digital Signal Processing*, (Undergraduate), 1995 - 1996, 2008 - 2021. (Graduate: 1999 - 2001)
- *Computer Vision*, (Undergraduate/Graduate), 1999-present.
- *Pattern Recognition with emphasis to Speech Recognition*, (Undergraduate/Graduate) 2001-2013.
- *Pattern Recognition*, (Undergraduate/Graduate) 2017-2021 (co-instructor).
- *Robotics: Analysis and Control*, (Undergraduate), 2015-2016.
- *Nonlinear Systems: Chaos, Fractals*, (Graduate), 1995, 1998-2005, 2018.
- *Theoretical Methods in Computer Vision and Signal Processing/Machine Learning*, (Graduate) 2006 – present.
- *Machine Learning*, (Undergraduate), 2022 – 2023 (co-instructor).
- *Healthcare Robotics*, (Graduate), 2023 – 2025 (co-instructor).

4. University of Pennsylvania, *Dept. Computer and Information Science*

- *Advanced Topics in Machine Perception*, (Graduate), Fall 2016.

5. Short Courses/Tutorials at International Conferences

- SIAM *"Short Course on Computer Vision"*, SIAM Conference, Boston, 1986 (co-instructor).
- Invited IEEE Tutorial Course on *"Morphological Signal Processing: Image Analysis and Nonlinear Filtering"*, given at the 1991 IEEE Int'l Conference on Acoustics, Speech and Signal Processing (ICASSP), Toronto, Canada, May 1991.
- *"Morphological Image Processing"*, OPTCON'92, Boston, MA, Nov. 1992.
- *"Mathematical Morphology and its Applications to Signal Processing"*, ISMM-1993, Barcelona, Spain, May 1993 (co-instructor).

- Invited IEEE Tutorial Course *on ``Introduction to the Theory and Applications of Mathematical Morphology''*, given at the 1997 IEEE Int'l Conference on Acoustics, Speech and Signal Processing (ICASSP 1997), Munich, Germany, April 1997 (co-instructor).
- Invited IEEE Tutorial Course on "*Multimodal Signal Processing, Saliency and Summarization"*, given at the 2017 IEEE Int'l Conference on Acoustics, Speech and Signal Processing (ICASSP 2017), New Orleans, USA, March 2017 (co-instructor).
- Invited ISCA Tutorial Course on "*Multimodal Speech & Audio Processing in Audio-Visual Human-Robot Interaction*", given at the 2018 INTERSPEECH Conference, Hyderabad, India, Sep. 2018 (co-instructor).
- Invited IEEE Tutorial Course on *"Multisensory Video Processing and Learning for Human-Robot Interaction"*, given at the 2019 IEEE Int'l Conference on Image Processing (ICIP 2019), Taipei, Taiwan, Sep. 2019 (co-instructor).
- Invited IEEE Tutorial Course on *"Introduction to Tropical Geometry and Its Applications to Machine Learning"*, given at the 2022 IEEE 14th Image, Video, and Multidimensional Signal Processing Workshop (IVMSP 2022), Nafplio, Greece, June 2022.
- Invited IEEE Tutorial Course on *"Tropical Geometry for Machine Learning and Optimization"*, given at the 2024 IEEE 49th Int'l Conference on Acoustics, Speech and Signal Processing (ICASSP 2024), Seoul, Korea, April 2024.
- Invited Short Course on "*Tropical Algebra and Geometry for Machine Learning and Optimization*", given at AIDA Symposium & Summer School on AI/ML Cutting Edge Trends (AIDA AICET2025), Aristotle Univ. of Thessaloniki, Greece, 16 July 2025.
- Invited Tutorial on "*Tropical Algebra and Geometry for Machine Learning and Optimization*", to be given at the 33rd European Signal Processing Conference (EUSIPCO 2025), Isola delle Femmine – Palermo – Italy, 08 September 2025.
- Short Course on "*Robot Perception and Multimodal AI*", given at 1st HERON Summer School on Robotics and AI, Eugenides Foundation, Athens, Greece, 30 June 2026.

Organization of New University Courses

- "Computer Speech Generation and Recognition", Harvard University, 1987.
- "Physical and Biological Models of Computation", Harvard University, 1989.
- "Topics in Image Analysis and Computer Vision", Nat. Tech. Univ. Athens, 1992.
- "Morphological Signal Processing: Image Analysis and Nonlinear Filtering", Georgia Tech, 1994.
- "Nonlinear Systems: Chaos, Fractals", Nat. Tech. Univ. Athens, 1998.
- "Computer Vision", Nat'l Tech. Univ. Athens, 1999.
- "Digital Signal Processing", Nat'l Tech. Univ. Athens, 2008.
- "Pattern Recognition & Speech Recognition", Nat'l Tech. Univ. Athens, 2001.
- "Pattern Recognition", Nat'l Tech. Univ. Athens, 2017.
- "Theoretical Methods in Computer Vision and Signal Processing", Nat'l Tech. Univ. Athens, 2004.
- "Advanced Topics in Machine Perception", University of Pennsylvania, 2016.
- "Machine Learning", Nat'l Tech. Univ. Athens, 2022.
- "Theoretical Methods in Computer Vision and Machine Learning", Nat'l Tech. Univ. Athens, 2024-2025.

VI. STUDENT and PostDoc RESEARCH SUPERVISION

Ph.D. Students Graduated

1. Chiou-Shann Fuh, "Visual Motion Analysis: Estimating and Interpreting Displacement Fields", Ph.D. Thesis, Harvard University, 1992.
2. Ping-Fai (Mike) Yang, "Morphological Systems for Character Image Processing and Recognition", Ph.D. Thesis, Harvard University, 1993.

3. Woonkyung Michael Kim, "A Morphological Approach to Learning", PhD Thesis, Harvard University, 1993.
4. Alexandros Potamianos, "Speech Processing Applications using an AM-FM Modulation Model", Ph.D. Thesis, Harvard University, 1995.
5. Lucio F.C. Pessoa, "Nonlinear Systems and Neural Networks with Hybrid Morphological/Rank/Linear Nodes: Optimal Design and Applications to Image Processing and Pattern Recognition", PhD Thesis, Georgia Institute of Technology, Atlanta, 1997.
6. Balu Santhanam, "Multicomponent AM-FM Energy Demodulation with Applications to Signal Processing and Communications", Ph.D. Thesis, Georgia Institute of Technology, Atlanta, 1998.
7. M. Akmal Butt, "Continuous and Discrete Approaches to Morphological Image Analysis with Applications: PDEs, Curve Evolution, and Distance Transforms", Ph.D. Thesis, Georgia Inst. Technology, Atlanta, 1999.
8. Dimitrios Dimitriadis, “Nonlinear Speech Processing, Modulation Models, and Application to Speech Recognition”, Ph.D. Thesis, National Technical University of Athens, 2005.
9. Iason Kokkinos, “Synergy Between Image Segmentation and Object Recognition Using Geometrical and Statistical Computer Vision Techniques”, Ph.D. Thesis, National Technical University of Athens, 2006.
10. Anastasia Sofou, ``Image Segmentation Using Morphological Methods and Active Contours with Application to Soilsection Analysis", Ph.D. Thesis, National Technical University of Athens, 2006.
11. Vassilis Pitsikalis, “Nonlinear Dynamical Systems and Robust Speech Processing and Recognition”, Ph.D. Thesis, National Technical University of Athens, 2007.
12. Georgios Evangelopoulos, “Texture and Microstructure Analysis with Modulation Models, Energy and Variational Techniques: Detection and Decomposition”, Ph.D. Thesis, National Technical University of Athens, 2007.
13. Athanasios Katsamanis, “Nonlinear Computational Speech Modeling with Elements of Aerodynamics of the Vocal Tract”, Ph.D. Thesis, National Technical University of Athens, 2009.
14. George Papandreou, “Image Analysis and Computer Vision: Theory and Applications in the Restoration of Ancient Wallpaintings”, Ph.D. Thesis, National Technical University of Athens, 2009.
15. Stamatios Lefkimmiatis, “Statistical Signal and Image Processing for Optimum Denoising and Detection with Applications to Satellite Data’’, Ph.D. Thesis, National Technical University of Athens, 2009.
16. Anastasios Roussos, “Nonlinear Diffusion in Computer Vision and Statistical Shape Models with Applications to Analysis of Articulator Images of Spoken and Sign Language”, Ph.D. Thesis, National Technical University of Athens, 2010.
17. Athanasia Zlatintsi, “Music Signal Processing and Applications in Recognition”, National Technical University of Athens, 2013.
18. Stavros Theodorakis, “Sign Language Recognition and Modeling Using Visual Processing and Statistical Methods”, National Technical University of Athens, 2014.
19. Isidoros Rodomagoulakis, “Methods for Robust Speech Recognition with Multiple Sensors and Applications in Smart Environments”, National Technical University of Athens, 2018.
20. Petros Koutras, “Learning Spatio-Temporal Representations and Visual Attention Modeling in Computer Vision Problems”, Ph.D. Thesis, National Technical University of Athens, 2019.
21. Antigoni Tsiami, “AudioVisual Attention Modeling and Multi-sensory Auditory Scene Analysis, Ph.D. Thesis, National Technical University of Athens, 2019.
22. George Retsinas, “Visual Representation Learning for Document Image Recognition”, PhD. Thesis National Technical University of Athens, 2020.
23. Panagiotis Giannoulis, “Multi-sensory Acoustic Scene Analysis”, National Technical University of Athens, 2021.
24. Panagiotis P. Filntisis, “Multimodal Deep Learning for Emotion Recognition and Expression Synthesis with Applications in Human-Robot Interaction”, PhD. Thesis, National Tech. University of Athens, 2022.

25. Niki Efthymiou, “Automated Systems for Perception and Learning of Human Actions”, PhD. Thesis, National Technical University of Athens, 2023.

Ph.D. Students: Thesis in Progress

26. Christos Garoufis, “Computer Speech & Music, Deep Learning, and Applications”, National Technical University of Athens.
27. Grigoris Bastas, “Speech & Music Processing and Deep Learning”, NTUA (co-supervision with ILSP).
28. Nikos Kardaris, “Computer Vision, Robotics and Applications”, National Technical University of Athens.
29. Panagiotis Mermigkas, “Computer Vision and Applications”, National Technical University of Athens.
30. Dimitris Makropoulos, “Computer Vision, Signal Processing and Machine Learning”, National Technical University of Athens.
31. Panagiotis Roditis, “Vision, Robotics and Machine Learning”, National Technical University of Athens.
32. Charalambos Vossos, “Audio-Visual Human-Robot Interaction and Multimodal Learning”, National Technical University of Athens.
33. Vasiliki Vasileiou, “Computer Vision and Robotics”, NTUA (co-supervision with K. Daniilidis/UPenn).
34. Evangelos Antypas, “Computer Vision and Machine Learning”, NTUA (co-supervision with K. Daniilidis/UPenn).
35. Konstantinos Chaldaiopoulos, “Vision-Language Models: Theory and Applications to Cognitive and Robotic Systems”, National Technical University of Athens.
36. Nikos Chatzis, “Theoretical Methods and Algorithms for Deep Learning with Geometric Reasoning”, National Technical University of Athens.
37. Alexandra Vioni, “Embodied Artificial Intelligence for Robot Perception and Multimodal Learning”, National Technical University of Athens.
38. Stelios Zarifis, “Reinforcement Learning for Computer Vision”, National Technical University of Athens.

Post-Doctoral Researchers

39. Luc Vincent, "Morphological Algorithms for Image Segmentation", Harvard University, 1990-1991.
40. Philippe Salembier, "Design of Optimal Nonlinear Filters for Image Pattern Detection", Harvard University, 1991.
41. Dimitris Dimitriadis, “Speech and Audio Processing and Recognition in Multimedia”, National Technical University of Athens, June 2006 – Sep. 2009.
42. Georgios Evangelopoulos, “Computer Vision and Audio Processing”, National Technical University of Athens, June 2008 – Sep. 2010.
43. Vassilis Pitsikalis, “Action, Gesture and Sign Recognition”, National Technical University of Athens, June 2008 – 2012. 2014 – 2017.
44. Athanasios Katsamanis, “Audio, Speech & Language Processing and Recognition”, National Technical University of Athens, 2013 - 2016.
45. Antigoni Tsiami, “AudioVisual Attention Modeling and Multi-sensory Auditory Scene Analysis, National Technical University of Athens, 2020 – 2022.
46. Athanasia Zlatintsi, “Audio/Music Signal Processing and Multimodal Recognition”, National Technical University of Athens and AthenaRC, 2014 - present.
47. George Retsinas, “Computer Vision and Machine Learning, Robotics”, National Technical University of Athens and AthenaRC, 2021 - 2025.

48. Ioannis Kordonis, “Tropical Geometry and Machine Learning”, National Technical University of Athens, 2022 - 2023.
49. Panagiotis P. Filntisis, “Computer Vision, Machine Learning, Human-Robot Interaction”, National Technical University of Athens and AthenaRC, 2022 - present.
50. Niki Efthymiou, “Computer Vision, Machine Learning, Human-Robot Interaction”, National Technical University of Athens and AthenaRC, 2024 - present.
51. Aikaterini Papadimitriou, “Computer Vision, Machine Learning, Robotics”, AthenaRC, 2025 - present.

Batchelor of Science Students

52. Nicholas Weir, "Analysis of the Maximum Entropy Method of Image Restoration Applied to Infrared and Optical Astronomy", A.B. Thesis, Harvard University, 1987.
53. Ran Liebeskind-Hadas, "An Application of Iterated Function Systems and Skeletonization to the Modeling of Fractal Images", A.B. Thesis, Harvard University, 1987.
54. Robert D. Ziff, "Data Structures and Algorithms for Mathematical Morphology", Senior Thesis, Harvard University, 1988.
55. H. Hu, "Forehead Feature Extraction by Deformable Templates", A.B. Thesis, Harvard University, 1989.
56. Kenneth L. Young, "The Analysis-by-Synthesis Method of CELP: Pitch Predictor Enhancements and Fractal Codebook Extensions", A.B. Thesis, Harvard University, 1991.

Master of Engineering/Master of Science Students

57. Helen Hanson, “Nonlinear Speech Processing and Speaker Identification”, Harvard University, 1991-92.
58. Nikos Vasiloglou, “Methods for Processing and Analyzing Fractal Signals”, M.Eng. Diploma Thesis, National Technical University of Athens, 2000.
59. Vassilis Pitsikalis, ``Analysis of Chaotic Time-Series with Application to Speech Sounds", M.Eng. Diploma Thesis, National Technical University of Athens, 2001.
60. Dimos Dimarogonas, “Nonlinear Control Systems with Application to Discrete Event Dynamical Systems”, M.Eng. Diploma Thesis, National Technical University of Athens, 2001.
61. Georgios Evangelopoulos, “Modern Methods for Signal Analysis with Application to Silence-Speech-Noise Detection”, M.Eng. Diploma Thesis, National Technical University of Athens, 2001.
62. Iason Kokkinos, “Analysis and Prediction of Speech Signals with Methods of Chaotic Time-Series Analysis”, M.Eng. Diploma Thesis, National Technical University of Athens, 2001.
63. Xanadu Chalkia, “Digital Processing of Kirlian Images”, M.Eng. Diploma Thesis, National Technical University of Athens, 2002.
64. A. Kotsenos, “Applications of Energy Operator and of Energy Separation Algorithm on Phonemes Using Gabor, Gammatone and Gammachirp Filters”, M.Sc. Thesis, National Technical University of Athens, 2002.
65. Konstantinos Tsiverdis, “Investigation of the Possibility of Improving the Efficiency of the Digital Image Coding Standard JPEG Using Multiscale Analysis Schemes”, M.Eng. Diploma Thesis, National Technical University of Athens, 2003.
66. Alexandros Dimakis, “Stochastic Processing of Fractal Signals”, M.Eng. Diploma Thesis, National Technical University of Athens, 2003.
67. George Papandreou, “Fast Algorithms for Geodesic Active Contour Evolution with Applications in Computer Vision”, M.Eng. Diploma Thesis, National Technical University of Athens, 2003.
68. Athanasios Katsamanis, “Statistical Multiband Demodulation and Speech Analysis using Kalman Filters and Energy Methods”, M.Eng. Diploma Thesis, National Technical University of Athens, 2003.
69. Eutychios Pnevmatikakis, “Inpainting Models for Automatic Image Structure-Texture Restoration and Text Removal”, M.Eng. Diploma Thesis, National Technical University of Athens, 2004.
70. Menelaos Stavropoulos, “Texture Analysis and Modeling in Digital Images using Markov-Gibbs Random Fields”, M.Eng. Diploma Thesis, National Technical University of Athens, 2005.

71. Anastasios Roussos, “Theory and Applications of Partial Differential Equations in Computer Vision”, M.Eng. Diploma Thesis, National Technical University of Athens, 2005.
72. Christos Bergeles, “Moving Object Tracking with Emphasis on Human Gestures”, M.Eng. Diploma Thesis, National Technical University of Athens, 2006.
73. Michail Raptis, “Human Gesture Tracking”, M.Eng. Diploma Thesis, National Technical University of Athens, 2006.
74. Angeliki Metallinou, “Segmentation and Classification of Speech, Noise and Silence using Metric Criteria and Statistical HMM/GMM Models, with Applications to Broadcast News Sound Processing’’, M.Eng. Diploma Thesis, National Technical University of Athens, 2007.
75. Olga Diamanti, “Visual Analysis of Sign Language Videos: Segmentation, Tracking and Feature Extraction’’, M.Eng. Diploma Thesis, National Technical University of Athens, 2007.
76. Stavros Theodorakis, “Recognition of Hand Gestures in Sign Language Videos using Hidden Markov Models”, M.Eng. Diploma Thesis, National Technical University of Athens, 2008.
77. Alkis Hadjiosif, “Visual Saliency and Movie Video Summarization”, M.Eng. Diploma Thesis, National Technical University of Athens, 2008.
78. Ioannis Gkioulekas, “Computational Modeling of Visual Attention”, M.Eng. Diploma Thesis, National Technical University of Athens, 2009.
79. Kimon Drakopoulos, “Morphology, Active Contours on Graphs and Implementations with Graphcuts”, M.Eng. Diploma Thesis, National Technical University of Athens, 2009.
80. Thalis Kapros, “Processing of Sound Signals with General Content for Detection of Salient Events”, M.Eng. Diploma Thesis, National Technical University of Athens, 2010.
81. Theodora Chaspari, “Emotion Recognition by Voice”, M.Eng. Diploma Thesis, National Technical University of Athens, 2010.
82. Georgia Gkioxari, “Three-dimensional Reconstruction of Objects and Buildings with Multiview Geometry”, M.Eng. Diploma Thesis, National Technical University of Athens, 2010.
83. Panagiotis Symvoulides, “Fractal Features Extraction from Physiological Signals with Application to a Computer Aided Diagnostic System for Mammographies”, M.Eng. Diploma Thesis, National Technical University of Athens, 2010.
84. Epameinondas Antonakos, “Visual Modeling of Human Faces with Applications in Recognition”, M.Eng. Diploma Thesis, National Technical University of Athens, 2011.
85. Stratis Tzoumas, “Face Detection and Pose Estimation with Applications in Automatic Analysis of Sign Language”, M.Eng. Diploma Thesis, National Technical University of Athens, 2011.
86. Christos Minaretzis, “Speech Synthesis from Text based on Hidden Markov Models”, M.Eng. Diploma Thesis, National Technical University of Athens, 2011.
87. Sotirios Stasinopoulos, “Detection and Classification of Human Actions Using Histographic Methods and Markov Models with Application in Martial Arts”, M.Eng. Diploma Thesis, National Technical University of Athens, 2011.
88. Christos Georgakis, “Human Action Recognition in Video”, M.Eng. Diploma Thesis, National Technical University of Athens, 2011.
89. Nikos Karianakis, “Digital Restoration of Prehistoric Wall-paintings in Akrotiri-Thera”, M.Eng. Diploma Thesis, National Technical University of Athens, 2011.
90. Petros Koutras, “Eye Gaze Estimation using Active Appearance Models”, M.Eng. Diploma Thesis, National Technical University of Athens, 2012.
91. Eleni Tzirita, “Automatic Music Transcription”, M.Eng. Diploma Thesis, National Technical University of Athens, 2013.
92. Zisis I. Skordilis, “Speaker Source Localization and Speech Denoising Using Multichannel Processing”, M.Eng. Diploma Thesis, National Technical University of Athens, 2013.
93. George Retsinas, “Handshape Recognition from the Alphabet of the Greek Sign Language with Emphasis on the Extraction of Rotationally Invariant Visual Features”, M.Eng. Diploma Thesis, National Technical University of Athens, 2014.

94. Nikos Melanitis, “Applications of 3D Reconstruction with Multiple-View Geometry”, M.Eng. Diploma Thesis, National Technical University of Athens, 2014.
95. Georgios Pavlakos, “Multimodal Gesture Recognition”, M.Eng. Diploma Thesis, National Technical University of Athens, 2014.
96. Kevis Maninis, “Human Action Classification and Recognition in Videos”, M.Eng. Diploma Thesis, National Technical University of Athens, 2014.
97. Christos Sakaridis, “Geodesic Active Contours on Arbitrary Graphs”, M.Eng. Diploma Thesis, National Technical University of Athens, 2014.
98. Christos Bampis, “Graph-theoretic Methods of Computer Vision and Machine Learning for Object Detection”, M.Eng. Diploma Thesis, National Technical University of Athens, 2014.
99. Konstantinos Zampogiannis, “Stochastic Visual Object Tracking”, M.Eng. Diploma Thesis, National Technical University of Athens, 2014.
100. Efi Mavroudi, “Automatic Recognition of Human Actions with Enriched Video Representations”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
101. Olivia Karathanou, “Multimodal Segmentation of Movie Videos in Scenes”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
102. George Anastasiou, “Automatic Detection of Salient Audio Events”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
103. Labros Flokas, “Sparse Representations and Applications”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
104. Nikos Kardaris, “Feature Extraction and Coding Methods for Human Action and Gesture Recognition with Applications in Robotics”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
105. Georgia Panagiotaropoulou, “fMRI Data Processing and Their Application in the Problem of Audio-Visual Saliency”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
106. Panagiotis Filntisis, “Audio-Visual Speech Synthesis Using Hidden Markov Models”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
107. Nikos Kolotouros, “Geodesic Active Contours and Finite Elements Method for Segmentation on Graphs”, M.Eng. Diploma Thesis, National Technical University of Athens, 2015.
108. Nikos Flemotomos, “Robust Acoustic Features for Automatic Distant Speech Recognition”, M.Eng. Diploma Thesis, National Technical University of Athens, 2016.
109. Vasileios Charisopoulos, “Tropical Geometry and Optimization with Applications to Machine Learning”, M.Eng. Diploma Thesis, National Technical University of Athens, 2017.
110. Evangelos Nikoloudakis, “Automatic Human Action Recognition Using Deep Convolutional Neural Nets”, M.Eng. Diploma Thesis, National Technical University of Athens, 2017.
111. Vasileios Lemonidis, “Real-time Dynamic Gesture Recognition in Static Egocentric Environment using Depth Sensor”, M.Eng. Diploma Thesis, National Technical University of Athens, 2017.
112. Jack Hadfield, “Virtual Agent for Object Assembly Assistance”, M.Eng. Diploma Thesis, National Technical University of Athens, 2017.
113. Georgios Bouritsas, “Multimodal Video Understanding with Weakly Supervised Learning Techniques”, M.Eng. Diploma Thesis, National Technical University of Athens, 2017.
114. Theodoros Pissas, “Recognition of Human Actions and Gestures Using Convolutional and Recurrent Neural Nets”, M.Eng. Diploma Thesis, National Technical University of Athens, 2017.
115. Nikos Gkanatsios, “Multimodal Recognition and Segmentation of Actions in Video”, M.Eng. Diploma Thesis, National Technical University of Athens, 2017.
116. Christos Garoufis, “Implementation of a Gesture Motion-based System for Music Synthesis”, M.Eng. Diploma Thesis, National Technical University of Athens, 2018.
117. Stefanos Pertikiozoglou, “Detection of Adversarial Image Examples in Convolutional Neural Nets”, M.Eng. Diploma Thesis, National Technical University of Athens, 2018.

118. Emmanouil Theodosis, “Tropical Analysis of Algorithms on Graphs”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2018.
119. Evangelos Chatzipantazis, “Semantic Object Segmentation with Spectral Graph Theory Techniques”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2018.
120. S. Galanakis, “Recognition and Localization of Human Activity in Video”, M.Eng. Diploma Thesis, National Technical University of Athens, 2019.
121. Vassiliki Tassopoulou, “An Exploration of Deep Learning Architectures for Handwritten Text Recognition”, M.Eng. Diploma Thesis, National Technical University of Athens, 2019.
122. Georgios Smyrnis, “Maxpolynomial Tropical Division and Neural network Simplification”, M.Eng. Diploma Thesis, National Technical University of Athens, 2020.
123. Nikos Dimitriadis, “Tropical Geometry and Applications in Machine Learning and Optimization”, M.Eng. Diploma Thesis, National Technical University of Athens, 2020.
124. Markos Diomataris, “Analysis of Semantic Bias for Visual Relations Detection with Semi-Supervised Learning”, M.Eng. Diploma Thesis, National Technical University of Athens, 2020.
125. Dafni Anagnostopoulou, “Automatic Engagement Estimation During Child-Robot Interaction by Using Pose Information”, M.Eng. Diploma Thesis, National Technical University of Athens, 2020.
126. Isidoros Marougkas, “A Study of a Hierarchical Multi-Attentive Framework for Real-Time Single Object 6-D Pose Tracking”, M.Eng. Diploma Thesis, National Tech. University of Athens, Jan. 2021.
127. Vassiliki Vasileiou, “Deep Neural Network Architectures for Recognition and Temporal Localization of Actions in Videos”, M.Eng. Diploma Thesis, National Technical University of Athens, Apr. 2021.
128. Ioannis Asmanis, “Combining Semantics With Unified Geometric Representations For Indoor SLAM”, M.Eng. Diploma Thesis, National Technical University of Athens, Apr. 2021.
129. Mary Parelli, “Deep Learning Based Sign Language Recognition”, M.Eng. Diploma Thesis, National Technical University of Athens, June 2021.
130. Ioannis Pikoulis, “Visual Semantic Emotion Recognition Using Deep Neural Networks”, M.Eng. Diploma Thesis, National Technical University of Athens, June 2021.
131. Aggelos Kratimenos, “3D Body, Face and Hands Reconstruction with application on Sign Language Recognition”, M.Eng. Diploma Thesis, National Technical University of Athens, June 2021.
132. Nikos Tsilivis, “Sparse Representations in Tropical Mathematics”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2021.
133. Stefanos Koutoupis, “Techniques for Automatic Transcription of Acoustic Guitar Signal to Symbolic Representations Using Digital Signal Processing and Machine Learing Methods”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2021.
134. Kleanthis Avramidis, “Affective Analysis and Interpretation of Brain Responses to Music Stimuli”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2021.
135. Ioanna Diamanti, “Modeling Visual Attention in Video Data with Incorporation of Depth”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2021.
136. Panagiotis Misiakos, “Tropical Geometric Approximation of Zonotopes With Applications to Neural Network Compression”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2021.
137. Panagiotis Antoniadis, “Deep Facial Expression Recognition Exploiting Categorical and Continuous Emotional Dependencies”, M.Eng. Diploma Thesis, National Tech. University of Athens, Nov. 2021.
138. Panagiotis Papantonakis, “Singing Voice Separation using Waveform-Level Deep Neural Networks”, M.Eng. Diploma Thesis, National Technical University of Athens, Nov. 2021.
139. Foivos Paraperas-Papantoniou, “Photo-realistic Neural Rendering for Emotion-related Semantic Manipulation of Unconstrained Facial Videos”, M.Eng. Diploma Thesis, National Technical University of Athens, Feb. 2022.
140. Maria Panagiotou, “Recording and Analysis of Biometric Indicators to Support Patients in Mental Health Issues”, M.Eng. Diploma Thesis, National Technical University of Athens, Feb. 2022.

141. Alexandros Benetatos, “Generation of Salient Scene Graphs Using Weak Supervision on Image Descriptions”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2022.
142. Dimitris Bralios, “Semi-supervised Denoising of Speech Signals Using Source Separation Techniques”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2022.
143. Nikos Sofias, “Sleep Stages Classification With Data Acquired From Wearables”, M.Sc. Diploma Thesis, National Technical University of Athens, July 2022.
144. Evangelos Fekas, “Unsupervised Representation Learning for Wearable-Sensory Time Series”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2022.
145. Stamatis Alexandropoulos, “Semantic Segmentation using Deep Convolutional Neural Networks”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2022.
146. Christina Ourania Tze, “Video Anonymization and Neural Rendering of Photo-realistic Human Actor Videos with Applications to Sign Language”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2022.
147. Andreas Georgis, “Optimization of Pose Estimation Using Vanishing Lines and Points in a One-Camera Visual SLAM System”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2022.
148. Petros Tzathas, “Implicit Neural Sculpting”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2022.
149. Charalabos Aggelakopoulos, “Text to Speech Synthesis in Greek”, M.Sc. Thesis, National Technical University of Athens, Oct. 2022.
150. Danai Charitou, “Automatic Music Synthesis”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2022.
151. Dimitris Makropoulos, “Convolutional Recurrent Neural Networks for the Classification of Cetacean Bioacoustic Patterns”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2022.
152. Nikos Kegkeroglou, “Deep Affective Bodily Expression Recognition in the Presence of Medical Face Masks”, M.Eng. Diploma Thesis, National Technical University of Athens, 2023.
153. Myrsini Christidou, “Classification of Sleep Stages from Wearable-derived Biosignals via Deep Neural nets”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2023.
154. Ioannis Pikoulis, “Diffusion Models with Applications in Face Reenactment and Talking Face Synthesis”, M.Sc. Diploma Thesis, National Technical University of Athens, July 2023.
155. Davyd Svyezhentsev, “Pre-training for Video Action Recognition with Automatically Generated Datasets”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2023.
156. Mihaela Konstantinou, “Action Recognition in Vehicle Environments”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2023.
157. Smaragdi Benetou, “Multiple Resolutions in Semantic Image Segmentation”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2023.
158. Pigi Lozou, “Multimodal Remote Sensing Data Classification using Semi-Supervised Variational Autoencoder”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2023.
159. Alexandra Vioni, “Recognition of Human Activities and Behaviors Using Wearable Sensor Data”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2023.
160. Athanasios Glentis-Georgoulakis, “Effective Methods for Deep Neural Network Sparsification”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2023.
161. Despoina Mousadi, “Improving the HESS-IU Camera Calibration”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2023.
162. Sotirios Karapiperis, “3D Reconstruction of Human Shape and Pose from Multichannel Images”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2023.
163. Dimitrios Bakalis, “Morphological Diffusion for Handwritten Text Generation”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2023.
164. Marios Glytsos, “Music Source Separation on Classical Guitar Duets”, M.Eng. Diploma Thesis, National Technical University of Athens, March 2024.

165. Georgios Milis, “Text-driven Articulate Talking Face Generation”, M.Eng. Diploma Thesis, National Technical University of Athens, March 2024.

166. Danai Brilli, “Enhancing Video Question Answering with the use of Scene Graphs”, M.Eng. Diploma Thesis, National Technical University of Athens, March 2024.

167. Petros Georgoulas, “A Clustering Method for Zero-Shot Learning”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2024.

168. Argyris Manetas, “Introducing Lines in Dynamic Visual SLAM and Rigid Object Motion Estimation”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2024.

169. Konstantinos Spathis, “Multi-task Learning for Action and Gesture Recognition”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2024.

170. Efthymios Tsaprazlis, “Enhancing Contrastive Language-Image Pre-training (CLIP) with Generative Dialogue”, M.Eng. Diploma Thesis, National Technical University of Athens, July 2024.

171. Telemachos Aravanis, “Text to Image Stylistic Alignment via Explainability of Attention”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2024.

172. Nikolaos Benetos, “*Visual Engagement Estimation and Gaze Tracking on Child Interactions*", M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2024.

173. Nikolaos Giannakakis, *“Action to Object Knowledge Distillation for Object-centric Representation Learning*”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2024.

174. Konstantinos Fotopoulos, “Tropical Geometry and Applications to Machine Learning”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2024.

175. Artemis Androni, “*Analysis of Audio Signals and Biometric Markers for Supporting Patients with Mental Health Disorders*”, M.Eng. Diploma Thesis, National Technical University Athens, Mar. 2025.

176. Chrysa Pratikaki, “*Photorealistic Sign Language Production from Text using Transformer Networks and Neural Rendering*”, M.Eng. Diploma Thesis, National Technical University of Athens, Mar. 2025.

177. Stylianos Zarifis, “*Decision-Making in Stochastic Environments Using Diffusion Models*”, M.Eng. Diploma Thesis, National Technical University of Athens, June 2025.

178. Aliki Zachou, “*Enhancing Neural Network Compression through Adaptive Pruning Strategies*”, M.Eng. Diploma Thesis, National Technical University of Athens, June 2025.

179. Orestis Konstantaropoulos, “*Emergent Object-Centric Perception Through Intrinsically Motivated Play*”, M.Eng. Diploma Thesis, National Technical University of Athens, June 2025.

180. Charalampos Botsas, “*Evaluating the Effectiveness of Pretrained Audio Representations in Session-Based Music Recommender Systems*”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2025.

181. Georgios Chatzichristodoulou, “*Generalizing 3D Human Shape and Pose Estimation for Diverse Non-Adult Populations*”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2025.

182. Nikolaos Chatzis, “*Expansion of Multilayer Perceptrons Through Progressive Neuron Addition*”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2025.

183. Ioanna Chourdaki, “*Teager–Kaiser Energy Operator for the Analysis of Brain Signal Dynamics*”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2025.

184. Maria Ios Glarou, “*Learning What to Learn: Adaptive Data Mixtures for Robust Multi-Target LLM Pretraining*”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2025.

185. Aggeliki Tsinouka, “*Occlusion-Robust Audiovisual Face Reconstruction with Temporal Modeling*”, M.Eng. Diploma Thesis, National Technical University of Athens, Oct. 2025.

186. Olga Kontakioti, “*Deep Temporal Modeling of Longitudinal Wearable Signals for Unsupervised Detection of Depressive Relapses*”, M.Eng. Diploma Thesis, National Technical University of Athens, March 2025.

187. Eirini Miliori, “*Image Manipulation via Guiding Attention Maps for Vision-Language Models*”, M.Eng. Diploma Thesis, National Technical University of Athens, March 2025.

188. Nikos Tsalkitzis, “*Time-Series Biometrics Analysis for Relapse Prediction in Psychotic Disorders*”, M.Eng. Diploma Thesis, National Technical University of Athens, March 2025.

189. Iason Kalogiannis, "Initialization and Optimization of Neural Networks with Ranking Layers", M.Eng. Diploma Thesis, National Technical University of Athens, July 2026.

M.Eng./M.Sc. Students: Thesis in Progress

190. +10 Students, M.Eng. Ongoing Diploma Thesis, National Technical University of Athens

VIII. UNIVERSITY and RESEARCH CENTER ADMINISTRATIVE EXPERIENCE

UNIVERSITY FACULTY COMMITTEES

Harvard University

54. *Head Tutor for Engineering Sciences*, 1988 - 1991:
Head Coordinator of Undergraduate Program of Harvard University in Engineering Sciences. Supervised the organization and changes of the undergraduate program of Harvard University in Engineering and headed the preparation of the program for a successful accreditation by the ABET committee.
55. Member of the Board of Tutors for Applied Mathematics, 1985 - 1987.
56. Member of the Board of Tutors for Engineering Sciences, 1985 - 1993.
57. Member of the Committee on Higher Degrees, 1986-1988.
Member of the University Committee of Graduate Studies.
58. Member of the Faculty Committee of Electrical, Computer, and Systems Engineering, 1985-1993.

Georgia Institute of Technology

59. Member of Faculty Committees of Signal Processing and Communications, 1993 - 98.
60. Member of the Research Committee, 1993 - 95.
61. Member of Computer Resources Committee, 1996.

National Technical University of Athens

- ***Chairman of ECE Committee of Graduate Studies and Director of Graduate Program***, 2000 - 2004.
- Member of the University Senate Committee of Graduate Studies, 2000 - 2004.
- Member of General Faculty Assembly of ECE School, 2000 - 2011.
- Member of Faculty Assembly of Division of Signals, Control & Robotics, 2001 - present.
- Member of ECE School Committee on university building planning, 2004 – 05.
- ***Director of ECE Intelligent Robotics & Automation Lab***, https://robotics.ntua.gr/, 2008 – present.
- ***Director of ECE Division of Signals, Control & Robotics***, 2009 – 2011, 2013-2019, 2022.

Athena Research Center

- ***Scientific Coordinator of Robot Perception and Interaction Unit***, 2012 - 2023.
- ***Acting Director of Robotics Institute***, 2023 - present.

ORGANIZATION OF NEW LABS

- Laboratory for research in Speech Processing, Harvard University, 1987.
- Laboratory for research in digital audio and sound processing, Georgia Inst. Technology, 1993.

- Laboratory for research in Computer Vision, Speech Communication and Signal Processing, National Technical University of Athens, 1999 - present. URL: http://cvsp.cs.ntua.gr
- Information Analysis & Modeling Unit Robotic, Athena Research Center, 2009 – 2015.
- Robot Perception and Interaction Unit, Athena Research & Innovation Center, 2012 – 2022.
- Robotics Lab, Institute of Robotics, Athena Research Center, 2023 – 2026.

VI. INVITED PUBLIC TALKS

1. "Applications of Morphological Filtering to Image Analysis and Processing", *The Analytic Sciences Corporation*, Reading, Massachusetts, December 1985.
2. "Morphological Signal and Image Analysis", *Massachusetts Institute of Technology*, Cambridge, Massachusetts, February 1986.
3. "Advances in Morphological Image Processing and Analysis", Invited Talk, *SPIE Conference on Visual Communications and Image Processing*, Cambridge, Sep. 1986
4. "A Geometrical Approach to Nonlinear Signal and Image Processing", *Bell Communications Research*, Morristown, New Jersey, March 1987.
5. "Some Issues in Nonlinear Signal Processing, Symbolic Signal Description, and Fractals", *Georgia Institute of Technology*, Atlanta, April 1987.
6. "Morphological Image Processing", Invited Sigma Xi Lecture, *GTE Laboratories*, Waltham, Massachusetts, June 1987.
7. "Morphology-based Image and Signal Analysis", *The Johns Hopkins University*, Baltimore, Maryland, Oct. 1987.
8. "Morphological and Median Filtering in Image Processing", *Canadian Center for Remote Sensing*, Ottawa, Ontario, July 1988.
9. ``Mathematical Morphology Applied to Multi-Scale Image Representation and Shape Description", *Morphology Workshop*, Univ. of Alabama, Huntsville, July 1988.
10. "Morphological Image Processing", *Worcester Polytechnic Institute*, Worcester, MA, Feb. 1989.
11. "Nonlinear Image Matching and Region-based Motion Analysis", *Bellcore*, Morristown, New Jersey, March 1989.
12. "Image Processing and Shape Analysis using Mathematical Morphology", *AT&T Bell Labs*, March 1989.
13. "Morphological Image and Signal Processing", *IEEE Invited Talk, Boston Chapter of Signal Processing Society*, April 1989.
14. "Topics in Morphological Image Analysis", *Xerox, PARC*, Palo Alto, CA, June 1989.
15. "Some Topics in Image and Speech Analysis", *Georgia Inst. Technology*, Atlanta, Sep. 1989.
16. "Fractal Aspects of Speech Signals", *M.I.T. Lincoln Labs*, Lexington, MA, Oct. 1989.
17. "Morphological Signal Processing", *University of Connecticut*, Storrs, CT, March 1990.
18. "Fractals in Speech and Image Processing", *Massachusetts Institute of Technology*, Cambridge, MA, May 1990.
19. ``Introduction to Fractals", *ARO Workshop on Fractals and Chaos in Science and Engineering*, Research Triangle Parc, NC, May 1991.
20. "Fractal and Modulation Structures in Speech Signals", *University of Connecticut*, Storrs, CT, Nov. 1991.
21. "Energy Modulations and Fractal Structures in Speech Signals", *B.B.N.*, Cambridge, MA, Jan. 1992.
22. "Multiscale Morphological Filtering and Fractals", *Georgia Institute of Technology*, Atlanta, May 1992.
23. "Nonlinear Systems for Speech Signal Processing", *Georgia Inst. Technology*, Atlanta, May 1992.
24. "Mathematical Morphology for Image Analysis", *National Technical University of Athens*, Oct. 1992.
25. "Nonlinear Systems for Speech Signal Processing", *Norwegian Institute of Technology*, Trondheim, Norway, Nov. 1992.
26. "Nonlinear Systems for Processing of Speech Signals ", *National Technical University of Athens*, Dec. 1992.
27. "Nonlinear Phenomena in Speech Signals: Energy Modulations and Fractals", *University of Athens*, Jan. 1993.
28. "Energy Modulations in Speech Signals", *M. I. T.*, Cambridge, MA, Mar. 1993.
29. "Morphological Image Analysis", *Center for Imaging & Pharmaceutical Research*, Massachusetts General Hospital, Boston, April 1993.
30. "Some Advances in Speech Analysis using AM-FM Models and Energy Operators", *M.I.T. Lincoln Laboratory*, Lexington, Massachusetts, Oct. 1993.
31. "Nonlinear Speech Processing using AM-FM Models and Energy Demodulation", *IEEE Invited Talk, Boston Chapter of Signal Processing Society*, Jan. 1994.

32. "Nonlinear Systems with Applications to Image and Speech Processing", *Louisiana State University*, Baton Rouge, LA, April 1994.
33. "Differential Morphology, Optics, and Image Processing", *Georgia Institute of Technology*, 1995.
34. "Nonlinear Multiscale Image Analysis and Vision via Partial Differential Equations", *University of Athens*, March 1997.
35. "Multicomponent AM-FM Demodulation via Periodic Algebraic Separation and Energy Demodulation", *M.I.T. Lincoln Labs*, Boston, June 1997.
36. "Modulation and Fractal Models for Speech Analysis and Recognition", COST249 European Meeting, *University of Porto*, Portugal, Feb. 1998.
37. "Image Segmentation using Partial Differential Equations", TMR European Meeting, *University Claude Bernard Lyon I*, France, March 1998.
38. "Nonlinear Partial Differential Equations in Computer Vision", *11th SummerSchool -- National Conference for Non-linear Dynamics: Complexity and Chaos*, Livadia, July 1998.
39. "Partial Differential Equations in Image Analysis: Continuous Modeling, Discrete Processing", **Plenary Talk**, *European Signal Processing Conference (EUSIPCO-1998)*, Rhodes, Greece, Sep. 1998.
40. "Two Frontiers in Morphological Image Analysis: Differential Evolution Models and Hybrid Morphological/Linear Neural Networks", **Plenary Talk**, *International Symposium on Computer Graphics, Image Processing and Vision (SIBGRAPI-98)*, Rio de Janeiro, Brazil, Oct. 1998.
41. "Morphological Processing of Images and Nonlinear Systems", *University of Patras*, May 2000.
42. «Speech Processing with Chaotic Features», Seminar *KTISIVIOS*, Human Network for Knowledge Difusion R&T in control, GSRT, Athens, Nov. 2000.
43. «Computer Vision in Control Systems: Geometrical Techniques», Seminar *KTISIVIOS*, Human Network for Knowledge Diffusion R&T in control, GSRT, Athens, Nov. 2000.
44. "Hybrid Neural Nets with Non-linear Processing Nodes: Theory and Application", *Robotics Workshop*, Human Network for Artificial Intelligence, GSRT, Athens, Mar. 2001.
45. "Topics in Image Analysis and Computer Vision", Int'l Workshop on Very Low Bit Rate Video Coding, Athens, Greece, Oct. 2001.
46. "Lattice and PDE Approaches for Global Multiscale and Connectivity Problems'", *Workshop on Mathematics and Image Analysis (MIA-2002)*, Paris, Sep. 2002.
47. "Lattice and PDE Approaches for Multiscale Analysis and Segmentation Problems In Computer Vision", **Keynote Talk**, *International Conference on Computing*, Mexico City, Nov. 2002.
48. "Nonlinear Speech Processing: Motivations, Goals, Applications", EUROMAP Meeting on Language Technology, Athens, March 2003.
49. "Topics in Computer Vision", *University of Athens*, Dept. of Informatics, May 2004.
50. "Some Advances in Multiscale Multiple-Cue Image Segmentation", MUSCLE European Scientific Meeting, Malaga, Spain, Nov. 2004.
51. "Geometric PDEs and Curve Evolution with Level Sets: Applications in Computer Vision", School of Applied Math. and Physical Sciences, NTUA, Jan. 2005.
52. "Perspectives on Basic Research in Informatics and Telecommunications", *Workshop on the Development of Basic Research in Greece: National Strategy and European Perspectives*, NTUA, Mar. 2006.
53. "Multimodal Signal Processing: Audio-Visual Fusion", Workshop: "*Greek Signal Processing Jam*", Univ. Athens, 17 Oct. 2009.
54. "Multimodal Signal Fusion and Saliency-based Movie Summarization", Institute of Mathematics and Statistics, University of Sao Paulo, Brazil, Nov. 2009.
55. "Multimodal Signal Processing: Audio-Visual Fusion", *1st Signal Processing Jam* (Workshop), Athens, 17 Oct. 2009.
56. "Overview of NTUA Computer Vision Research and Recent Activities related to Akrotiri", Summer School-Seminar, *Center of Study of Prehistoric Thera - Akrotiri Excavation*, Santorini, Greece, July 2010.
57. "Multimodal Signal Processing and Multidimensional Integration", **Plenary Talk**, *European Signal Processing Conference (EUSIPCO-2010)*, Aalborg, Denmark, Aug. 2010.
58. "Audio-Visual Event Detection, Multimodal Saliency and Movie Summarization", *COST European Meeting: 1st TIMELY Workshop*, Athens, Oct. 2010.
59. "Segmentation and Skeletonization on Arbitrary Graphs Using Multiscale Morphology and Active Contours", *Dagstuhl Seminar 11142 - "Innovations for Shape Analysis: Models and Algorithms"*, Dagstuhl Schloss, Germany, 06 Apr. 2011.
60. "Multimodal Information Processing and Fusion", **Keynote Talk**, *International Gesture Workshop (GW 2011)*, Athens, May 2011.

61. "Sign Language Recognition: Visual Processing and Multimodal Visemes/Subunits", *FIRST: Workshop on Image Processing and Reaction-Diffusion*, Jerusalem, Israel, 13 Sep. 2012.
62. "Morphological and Variational Methods in Image Analysis and Vision", *University of Pennsylvania*, Dept. Computer & Information Science, Philadelphia, 05 Oct. 2012.
63. "Morphological Signal/Image Processing in the Time/Space and Slope Domains", *Massachusetts Institute of Technology*, EECS, DSP Seminar, 24 Oct. 2012.
64. "Multimodal Information Processing, Fusion and Recognition, Nonlinear Systems", *Massachusetts Institute of Technology*, EECS, LIDS Seminar, 27 Nov. 2012.
65. "Audio-Visual Processing: Theory and Applications to Speech Inversion and Recognition", *M.I.T. Lincoln Laboratory*, Lexington, Massachusetts, 13 Dec. 2012.
66. "Advances in Sign Language Recognition and Morphological Systems", *University of Southern California*, Signal and Image Processing Institute, Los Angeles, 17 Dec. 2012.
67. "Modulation Models in Speech and Video Processing", *University of Washington*, Dept. of Electrical Engineering, Seattle, WA, 19 Dec. 2012.
68. "Advances in Sign Language Recognition and Variational Methods in Vision", *Foundation for Research and Technology (FORTH)*, Hraklion, Crete, 18 Jan. 2013.
69. "On Shape Recognition and Language", *Dagstuhl Seminar 14072 - "New Perspectives in Shape Analysis"*, Dagstuhl Schloss, Germany, 13 Feb. 2014.
70. "Lattice and Variational Methods in Image Analysis and Vision", *School of Applied Math. and Physical Sciences*, NTUA, 26 Feb. 2014.
71. "Audio-Visual Attention and Lattice Dynamical Systems", *Research Workshop on Shape and Image Modeling and Analysis (SIMA 2014)*, Ein-Gedi, The Dead Sea, Israel, 29 May 2014.
72. "Audio-Visual Information Processing: Modeling and Applications", *University of Crete*, Hraklion, Crete, 25 July 2014.
73. "Audio-Visual Attention and Lattice Dynamical Systems", *Ecole Centrale Paris*, 24 Oct. 2014.
74. "Signal Processing and Dynamical Systems on Weighted Lattices", Workshop: *3rd Signal Processing Jam*, Athens, 20 Jan. 2015.
75. "Modern Trends and Perspectives in Signal Processing", **Keynote Talk**, *8th Panhellenic Conference of University Students in Electrical and Computer Engineering*, Patras, Greece, 03 Apr. 2015.
76. "Audio-Visual Attention, Computational Saliency, and Movie Summarization", *University of Southern California*, Los Angeles, 16 Feb. 2016.
77. "Action and Gesture Recognition in Human-Robot Interaction", *University of Southern California*, Los Angeles, 17 Feb. 2016.
78. "Signal Processing and Dynamical Systems on Weighted Lattices", *University of Southern California*, Los Angeles, 18 Feb. 2016.
79. "Action, Gesture and Spoken Command Recognition in Human-Robot Interaction", *Oregon State University*, Corvallis, OR, 22 Feb. 2016.
80. "Action, Gesture and Spoken Command Recognition in Human-Robot Interaction", *School of Applied Mathematics and Physical Sciences*, NTUA, 30 Mar. 2016.
81. "Graph-theoretic Approaches to Segmentation based on Active Contours and Random Walk Schemes on Arbitrary Graphs"**,** *University of Pennsylvania*, GRASP Lab, Philadelphia, 02 Dec. 2016.
82. "Multimodal Spatio-Temporal Signal Processing and Audio-Visual Perception", **IEEE SPS DL Talk,** *GTTI Thematic Meeting on Multimedia Signal Processing 2017, IEEE SPS Italy Chapter*, Courmayeur, Italy, 30 Jan. 2017.
83. "Graph-theoretic Approaches to Segmentation based on Active Contours and Random Walk Schemes on Arbitrary Graphs", **IEEE SPS DL Talk,** *Sapienza University of Rome*, 17 May 2017.
84. "Signal Processing and Dynamical Systems on Weighted Lattices", *Thomas Kailath Honorary Degree Ceremony, Symposium in Athens*, Museum of the Akropolis, 13 June 2017.
85. "Multimodal Processing and Learning with Applications in Audio-Visual Perception and Understanding", **IEEE SPS DL Talk,** *Tencent, IEEE Beijing Chapter*, Beijing, China, 21 Sep. 2017.
86. "Action, Gesture and Spoken Command Recognition in Human-Robot Interaction", **IEEE SPS DL Talk,** *Tsinghua University*, Beijing, China, 22 Sep. 2017.
87. "Graph-theoretic Approaches to Segmentation based on Active Contours and Random Walk Schemes on Arbitrary Graphs", **IEEE SPS DL Talk,** *Foundation for Research & Technology – Inst. Comp. Science*, Hraklion, Crete, 13 Nov. 2017.
88. "Action, Gesture and Spoken Command Recognition in Human-Robot Interaction", **IEEE SPS DL Talk,** *Università di Pisa, Dipartimento di Ingegneria dell' Informazione*, Italy, 20 Dec. 2017.
89. "Multimodal Processing and Learning with Applications in Audio-Visual Perception and Understanding", **IEEE SPS DL Talk,** *Stanford University*, Dept. Computer Science, Stanford, California, 6 Feb. 2018.

90. "Dynamical Systems on Weighted Lattices: Nonlinear Processing and Optimization", **IEEE SPS DL Talk,** *Stanford University*, Dept. Electrical Engineering, Stanford, California, 8 Feb. 2018.
91. "Multimodal Data Processing and Learning with Applications in Audio-Visual Perception and Human-Robot Interaction", *VMWare*, Palo Alto, California, 12 Feb. 2018.
92. "Dynamical Systems on Weighted Lattices: Nonlinear Processing and Optimization", **IEEE SPS DL Talk,** *University of Southern California*, Los Angeles, 14 Feb. 2018.
93. "Multimodal Processing and Learning with Applications in Audio-Visual Perception and Understanding", **IEEE SPS DL Talk,** *Google Research*, Los Angeles Campus, Venice, California, 15 Feb. 2018.
94. "Dynamical Systems on Weighted Lattices: Nonlinear Processing and Optimization", **IEEE SPS DL Talk,** *University of Patras*, Rio, Greece, 4 May 2018.
95. "Graph-theoretic Approaches to Segmentation based on Active Contours and Random Walk Schemes on Arbitrary Graphs", **Distinguished Lecturer Series "Leon the Mathematician"**, *Aristotle University of Thessaloniki - Dept. of Informatics*, 31 May 2018.
96. "Discretization of Morphology-type PDEs and Active Contours on Graphs", *SIAM Conference on Imaging Science 2018*, Minisymposium "MS48 - Recent Advances in Mathematical Morphology: Algebraic and PDE-based Approaches", 7 June 2018.
97. "Multimodal Processing and Learning with Applications in Audio-Visual Perception and Understanding", **IEEE SPS DL Talk,** *University of Ioannina*, Ioannina, Greece, 13 June 2018.
98. "Nonlinear Aspects of Speech Production: Speech Modulations and Energy Operators", **IEEE SPS DL Talk,** *Summer School on Speech Production, Satellite Event of INTERSPEECH 2018*, DA-IICT, Gandhinagar, India, 9 Sep. 2018.
99. "Nonlinear Aspects of Speech Production: Fractals and Chaotic Dynamics", **IEEE SPS DL Talk,** *Summer School on Speech Production, Satellite Event of INTERSPEECH 2018*, DA-IICT, Gandhinagar, India, 10 Sep. 2018.
100. "Mathematical Morphology, Tropical Geometry and Weighted Lattices", *Dagstuhl Seminar 18422 - "Shape Analysis: Euclidean, Discrete and Algebraic Geometric Methods"*, Dagstuhl Schloss, Germany, 17 Oct. 2018.
101. **"**Synergy between Computer Vision and Language Processing for Multimodal Perception and Understanding", **Keynote Talk**, *IEEE Workshop on Spoken Language Technology (SLT 2018)*, Athens, 19 Dec. 2018.
102. "Multisensory Video Processing and Learning for Human-Robot Interaction", *National Taiwan University*, Dept. Computer Science & Information Engineering, Taipei, 27 Sep 2019.
103. "Synergy between Computer Vision and Language Processing for Multimodal Perception and Understanding", *Portland State University*, Dept. Electrical & Computer Engineering, Portland, USA, 27 Nov. 2019.
104. "Computer Vision and Multimodal Communication for Physically and Socially Assistive Robotics", *Computer Vision Lab, Dept. Information Technology & Electrical Engineering, ETH*, Zürich, 25 May 2021.
105. "Introduction to Tropical Geometry and its Applications to Machine Learning", Artificial Intelligence Doctoral Academy (AIDA) Excellence Lecture Series, 26 Oct. 2021.
106. "Introduction to Tropical Geometry and its Applications to Machine Learning", Invited Tutorial Talk, IEEE Image, Video and Multidimensional Signal Processing Workshop (IVMSP-2022), Nafplio, Greece, 26 June 2022.
107. "Introduction to Tropical Geometry and its Applications to Machine Learning", Archimedes Workshop, Athena Research Center, Athens, Greece, 18 July 2022.
108. "Robotics and Artificial Intelligence: Multimodal Perception for Human Activity Recognition and Human-Robot Interaction", Erasmus BRAINS program, 2nd General Lyceum, Kalymnos, Greece, 22 March 2023.
109. "Multimodal Perception and Learning for Activity Recognition and Human-Robot Interaction", **Keynote Talk**, *14th Panhellenic Conference of University Students in Electrical and Computer Engineering*, Volos, Greece, 21 Apr. 2023.
110. "Multimodal Robot Perception and Interaction", **Keynote Talk**, *Pervasive Technologies Related to Assistive Environments (PETRA 2023) Int'l Conference*, Kerkyra, Greece, 5 July 2023.
111. "Tropical Geometry and Machine Learning", *University of Southern California, Dept. ECE and Ming Hsieh Institute*, Los Angeles, 01 Dec. 2023.
112. "Robot Perception in the AI era and Assistive Robotics", *RoboTalk-2024, IEEE RAS NTUA Student Branch*, 03 April 2024.
113. "Tropical Geometry for Machine Learning", **Plenary Talk**, *CaLISTA Workshop on Geometry-Informed Machine Learning*, Paris, 02 Sep. 2024.
114. "Robotics and Artificial Intelligence", Workshop on Research and Innovation, *International Fair Thessaloniki* (Διεθνης Εκθεση Θεσσαλονικης), 07 Sep. 2024.
115. **Invited Talk**, "Robotics in the AI era", *13th EETN Conference on Artificial Intelligence (SETN 2024): Cognitive Robotics and AI Workshop*, 12 Sep. 2024.
116. **Invited Talk, "**Tropical Geometry and its Applications to Machine Learning**",** *Mathematics & Machine Learning Seminar, Max-Planck Institute (MIS) and University of California at Los Angeles***,** 19 Dec. 2024.
117. **Invited Talk**, "Robotics in the AI era", *IEEE Greece Section*, 13 Feb. 2025.

118. **Keynote Talk**, "Robot Perception, Learning, and Multimodal AI", *25th International Conference on Digital Signal Processing (DSP 2025)*, Costa Navarino, Greece, 25 June 2025.
119. **Keynote Talk**, "Robot Perception and Multimodal AI", *Greeks-in-AI Symposium*, Athens, 20 July 2025.
120. "Robot Perception, Learning and Multimodal AI", *HERON Workshop*, *Karlsruhe Institute of Technology*, Germany, 01 April 2026.
121. **Keynote Talk**, "HERON-Hellenic Robotics Center of Excellence: Research Directions and Goals", *International Conference on Unmanned Aircraft Systems (ICUAS 2026)*, Corfu, Greece, 17 June 2026.