

EDUCATION

PhD in Electrical Engineering and Computer Science Northwestern University, Evanston, IL	2006
MSc in Electrical and Computer Engineering Northwestern University, Evanston, IL	2003
Diploma in Electrical and Computer Engineering Aristotle University of Thessaloniki, Greece	2000

CURRENT EMPLOYER

Address: IDCOM-Institute of Digital Communications, School of Engineering, Room 2.06, Alexander Graham Bell Building, The King's Buildings, Thomas Bayes Rd, Edinburgh EH9 3FG, UK
Position: Chancellor's Fellow (Senior Lecturer Grade)

Duties/responsibilities:

- As a leader of my research team at IDCOM it is my responsibility and duty to:
 - develop a research program in machine learning and image analysis with applications in medicine, biology, and natural sciences;
 - solicit funding, and recruit research staff; and
 - supervise and mentor team members
- As a faculty:
 - Participate in various committees and exam boards;
 - Teach courses at the undergraduate/post-graduate level (Electrical Engineering Discipline)

EMPLOYMENT HISTORY

Turing Fellow, The Alan Turing Institute	<i>September 2017 – Present</i>
Chancellor's Fellow (Senior Lecturer Grade), The University of Edinburgh Institute of Digital Communications, School of Engineering - http://tsaftaris.com	<i>September 2015 – Present</i>
Director, IMT Institute for Advanced Studies Lucca (Italy) Pattern Recognition and Image Analysis Unit (PRIAn)	<i>July 2012 – Oct 2016</i>
Assistant Professor, IMT Institute for Advanced Studies Lucca (Italy) Area of Computer Science and Applications	<i>September 2011 – 2015</i>
Adjunct Assistant Professor, Northwestern University (USA) Departments of Electrical Engineering and Computer Science and Radiology, Feinberg School of Medicine	<i>July 2011 – Present</i>
Research Assistant Professor, Northwestern University (USA) Department of Radiology, Feinberg School of Medicine	<i>January 2009 – July 2011</i>
Research Assistant Professor, Northwestern University (USA) Department of Electrical Engineering and Computer Science	<i>November 2006 – July 2011</i>
Visiting Researcher, Meiji University (Japan) Institute of Applied DNA Computing, Kanagawa-Ken	<i>September 2005</i>
Research Assistant, Northwestern University (USA) Department of Electrical Engineering and Computer Science, Image & Video Processing Laboratory	<i>July 2002 – July 2006</i>
Graduate Researcher, CERTH (Greece) Informatics & Telematics Institute, Center for Research and Technology Hellas (CERTH) Greece	<i>September 2000 – July 2001</i>

PROFILE AT A GLANCE

- More than **100** accepted **publications** of multidisciplinary character in peer reviewed journals (highly ranked in medical imaging and image processing) and conferences: >50 without my PhD advisor
- Predominantly **interdisciplinary** research, of high risk / high reward, in ground breaking subjects, with focus on the intersection of image analysis, computer vision, machine learning, life and natural sciences.
- Work **recognized** with awards, journal covers, prestigious fellowships, and large media coverage
- Extensive **funding** record at national and international level
- Large network of **collaborators** in academia and industry
- Strong record of **service** to the academic community and university administration
- Extensive record of **supervision** of staff/students
- Excellent **teaching** record (at 3 institutions, both graduate and undergraduate)

AWARDS AND HONORS

Best regular paper Award , STACOM a MICCAI workshop	September 2017
Magna Cum Laude Award, top paper International Society for Magnetic Resonance in Medicine (ISMRM)	May 2012 & 2014
Early Career Award finalist , Society for Cardiovascular Magnetic Resonance (SCMR)	February 2011
Distinguished Reviewer , Journal of Magnetic Resonance Imaging	Years 2011 and 2012
New Entrant Stipend Award, International Society for Magnetic Resonance in Medicine (ISMRM)	February 2008
Alexander S. Onassis Postgraduate Scholarship , Onassis Foundation	September 2001 – August 2005
Murphy Fellowship , Northwestern University	September 2001 – September 2002
Award of Excellence , Technical Chamber of Greece	September 2001 – September 2002

GRANTS

Ongoing:

- EPSRC First grant (EP/P022928/1) (PI: Tsaftaris) [£116,397 ScE] 09/17-01/19
CardiacA.I.: Machine learning for the analysis of multimodal cardiac MR images used in the diagnosis of coronary heart disease
- National Institutes of Health (USA) (Co-I, PI: Dharmakumar) [\$200,000 ScE; \$1.7M Total] 6/17-6/22
An Accurate Non-Contrast-Enhanced Cardiac MRI Method for Imaging Chronic Myocardial Infarctions: Technical Developments to Rapid Clinical Validation
- BBSRC GCRF (BB/P023487/1) (Co-I, PI: Doerner) [£284,558 ScE; £594,981 UoE Total] 05/17-12/18
Improving root system architecture for enhanced drought tolerance and nutrient use efficiency in semi-arid agriculture of chickpea
- EPSRC DTP (1785349) (Studentship, Supervisor: Tsaftaris) 10/16-3/20
Plant Phenotyping as a multi task machine learning problem
- BBSRC TRDF (BB/N02334X/1) (Co-I, PI: McCormick) [£3,493 ScE; £186,054 UoE Total] 10/16-3/18
An affordable active photometric system for capturing real-time 3D responses to vegetation dense environments

Completed:

- National Institutes of Health (USA) (Co-Investigator, PI: Dharmakumar) 9/13-9/17
Reliable Evaluation of Coronary Artery Disease using Myocardial BOLD MRI with CO₂
- Marie Curie International Reintegration Grant (EU-FP7) (Principal Investigator PI) 9/11-9/15
PHIDIAS: Phenotyping with a High-throughput, Intelligent, Distributed, and Interactive Analysis System
- Istituto Italiano di Tecnologia (Italy) (Key Personnel, PI: Caldarelli) 1/12-12/14
APriCoR: Analysis of Patterns in Correlations
- Italian Ministry of Education, University and Research (Key Personnel, PI: Riccaboni) 9/12 - 10/14
FIRB Futuro in Ricerca 2012 Linea 3 - ViWaN, The global virtual-water network: social, economic, and environmental implications.
- PiCloud Computing Inc (San Francisco, USA) (PI) (in kind contribution) 4/12-12/13
Use of commercial clouds for large scale analysis

- National Institutes of Health (USA) (Key Personnel, PI: Dharmakumar) 4/08-3/13
4D SSFP MRI for Detecting Functionally Important Coronary Artery Stenosis at Rest
- CCITT – US Department of Transportation (USA) (co-PI, PI: Katsaggelos) 4/11-12/12
iTRAC-w: Intelligent Compression and Transmission of Traffic Video
- CCITT – US Department of Transportation (USA) (PI) 4/09-8/10
iTRAC: Intelligent Compression of Traffic Video
- CCITT – US Department of Transportation (USA) (co-PI, PI: Katsaggelos) 1/08-1/10
Video Traffic Analysis for Abnormal Event Detection
- The Andrew Mellon Foundation - Art Institute of Chicago (USA) (co-PI, PI: Katsaggelos) 10/07-12/08
Turning back the hand of time: digital reconstruction of early versions of Matisse's "Bathers by a River"
- The San Diego Foundation (USA) (co-PI, PI: Katsaggelos) 10/06-4/08
Universal Microarrays for High Throughput Gene Analysis

PROFESSIONAL AND ACADEMIC ACTIVITIES

Grant Reviewer

July 2009–Present

- National Institutes of Health (NIH, USA) Reviewed challenge grant applications for the Surgical Sciences, Biomedical Imaging and Bioengineering special emphasis panel. June/July 2009
- German Federal Ministry of Education and Research (Germany). July 2011
- Biotechnology and Biological Sciences Research Council (BBSRC, UK). Aug 2015
- Leverhulme Trust (UK). Mar 2016
- British Heart Foundation (BHF, UK). Aug 2017
- Netherlands Organisation for Scientific Research (NWO). Aug 2017

Associate Editor

July 2011– Present

- IEEE Journal of Biomedical and Health Informatics (formerly IEEE Transactions on Information Technology in Biomedicine) 7/2011
- Digital Signal Processing (DSP), Elsevier 7/2014

Guest Editor

September 2014 & 2015

- [Simulation and Synthesis in Medical Imaging](#) – IEEE Transactions on Medical Imaging 2017
- [Joint Special Issue on Reproducible Research in Signal Processing](#) - Digital Signal Processing & Software X 2016
- [Computer Vision and Image Analysis in Plant Phenotyping](#) - Machine Vision and Applications 2015

Workshop Organizer

2014– Present

- [Computer Vision Problems in Plant Phenotyping](#) - European Conference on Computer Vision (ECCV) 2014
- [Computer Vision Problems in Plant Phenotyping](#) - British Machine Vision Conference (BMVC) 2015
- [Computer Vision Problems in Plant Phenotyping](#) – International Conference Computer Vision (ICCV) 2017
- [Simulation and Synthesis in Medical Imaging](#) - Medical Image Computing and Computer Assisted Interventions (MICCAI) 2016
- [Simulation and Synthesis in Medical Imaging](#) – MICCAI 2017

Conference organizing committee

2018

- IEEE International Conference on Image Processing (ICIP 2018), Athens Greece, Doctoral Symposium Chair

Conference Area Chair

2015– Present

- International Conference on Computer Vision (ICCV 2017), Venice, Italy
- 19th International Conference on Image Analysis and Processing (ICIAP 2017), Italy
- IEEE Multimedia Signal Processing Workshop (MMSP 2016), Canada
- IEEE International Conference on Visual Communications and Image Processing (VCIP 2015), Singapore

Technical Program Committee Member

- IEEE IPTA 2012, Special Session on High Performance Computing in Computer Vision Applications, Istanbul Turkey (2012); 4th International Symposium on Information Technologies in Environmental Engineering, Thessaloniki, Greece (2009); Kellogg Nanobusiness Conference, Evanston, IL (2004); Int. Conference on Augmented, Virtual Environments and Three-Dimensional Imaging, Mykonos, Greece (2001)

Reviewer

2001 – Present

- IEEE Transactions on Image Processing, Signal Processing, Information Technology in Biomedicine, Circuits and Systems for Video Technology, Information Forensics & Security, Computational Biology and Bioinformatics
- Circulation; JACC; PloS Biology; Nature Scientific Reports; Journal of Magnetic Resonance Imaging; EURASIP Journal of Applied Signal Processing; Computerized Medical Imaging and Graphics
- MICCAI; IEEE International Conferences on Image Processing (ICIP), on Acoustics, Speech, and Signal Processing (ICASSP); International Conference of Digital Signal Processing
- International Conference of the International Society for Magnetic Resonance in Medicine (ISMRM)

TEACHING, ADVISING, AND UNIVERSITY SERVICE**TEACHING (Undergraduate; Graduate)**

- **University of Edinburgh (UK):**
 - Lecturer**, Advanced Concepts in Signal Processing (PGEE11020) – MSc *Winter 2017*
 - Lecturer**, Signals and Communication Systems 3 (ENM532.1410.3) – UG *Winter 2016/2017*
- **IMT Institute for Advanced Studies (Italy):**
 - Coordinator**, PhD Curriculum in Image Analysis of the Computer, Decision, and Systems Science / CDSS track – G *Academic years 2012-2014*
 - Lecturer**, Pattern Recognition and Machine Learning – G *Academic years 2012-2014*
 - Lecturer**, Large Scale Image Analysis for Natural and Life Sciences – G *Academic years 2012-2014*
 - Lecturer**, Advanced Topics in Image Analysis – G *Academic years 2013-2014*
- **Northwestern University (USA):**
 - Lecturer**, Introduction to Electrical Engineering (EECS 202) – U *Academic years 2008-2010*
 - Teaching Assistant**, Digital Signal Processing (ECE 359) – UG *Fall 2003 & Fall 2004*
 - Guest Lecturer**, Multimedia Signal Processing (ECE 420) – G *Spring 2005*
 - Guest Lecturer**, Digital Image Processing (ECE 420) – G *Winter 2004 & Winter 2005*
 - Guest Lecturer**, Signals and Systems (EECS 222) – U *Spring 2003 & Winter 2008*
- **Mediterranean Agronomic Institute of Chania (Greece):**
 - Visiting Lecturer**, Advanced Topics in Digital Image Analysis (ENM532.1410.3) – G *June 2013/2014*

STUDENT ADVISING & STAFF SUPERVISION (unless otherwise noted I had the sole role)**PhD supervision**

1. X. Tian, (UoE PhD,-), Dissertation, Multimodal image representations
2. A. Chartsias (UoE PhD,-), Dissertation, Multimodal image segmentation
3. A. Dobrescu (UoE PhD,-), Dissertation, Plant phenotyping and machine learning
4. V. Giuffrida (IMT PhD, -), *Dissertation*, Invariant image representations
5. I. Oksuz (IMT PhD, expected Dec 2017), *Dissertation*, Cardiovascular BOLD MRI joint segmentation and registration (now King's College London, UK)
6. M. Minervini (IMT PhD, PhD 2015), *Dissertation*, Affordable sensing and application-aware compression (now at IMT)
7. Z. Chen (NU PhD, 2014), *Dissertation*, Surveillance aware video compression transmission ^A (now Google)
8. E. Soyak (NU PhD, 2011), *Dissertation*, Surveillance aware video compression ^A (now CEO LifeMote)
9. F. Yang (NU PhD, 2011), *Dissertation*, Surveillance analytics and mining ^A (now Amazon)

PostDoc supervision

10. T. Joyce (UoE PostDoc, PhD UoE 2016), *PostDoc*, Deep learning in cardiac MRI
11. A. Mukhopadhyay, (IMT PostDoc, PhD USA 2014), *PostDoc*, Cardiac MR segmentation (now Junior Research Group Leader, TU Darmstadt, Germany)
12. M. Bevilacqua, (IMT PostDoc, PhD France 2014), *PostDoc*, Ischemia detection with dictionary learning (now University of Bordeaux, France)
13. C. Rusu, (IMT PostDoc, PhD Romania 2012), *PostDoc*, shift-invariant dictionary learning (now Lecturer, Ireland)

MSc, BSc, and Interns

14. A. Laurynovich (UoE BEng, -), *BEng*, Internet of Things
 15. F. Chen (UoE MSc, 2017), *MSc*, Crowdsourcing in plant leaf counting [**best dissertation award**]
 16. X. Tian (UoE MSc, 2017), *MSc*, Compression invariant feature learning [**IDCOM scholarship winner**]
 17. M. Chai (UoE MSc, 2017), *MSc*, Learning to detect rare events
 18. S. He (UoE MSc, 2016), *MSc*, Active learning in counting
 19. R. Pei (UoE MSc, 2016), *MSc*, Segmentation of pathology in images from cardiac MRI
 20. L. Song (UoE MSc, 2016), *MSc*, Joint compression and classification
 21. M. Damiano (IIT, 2012), *Internship*, Image analysis for small animal brain MRI (structural)^B (now Engineer at TBS GB Telematic and Biomedical Services Ltd)
 22. L. Doderò (IIT, 2012), *Internship*, Image analysis for small animal brain MRI (DTI)^B (now PhD student at Univ. of Genova)
 23. K. Hayashi (NU BSc, 2011), *Undergraduate project*, Painting restoration and Illumination correction (now TapSense)
 24. B. Cheng (NU BSc, 2011), *Undergraduate project*, DNA thermodynamics (now PepsiCo)
 25. D. Babacan (NU MSc, 2009), *Project*, Surveillance analytics and object tracking ^A (now CTO LifeMote)
 26. E. Maani (NU MSc, 2009), *Project*, Video Fingerprinting ^A (now Apple)
 27. M. Luessi (NU MSc, 2008), *Thesis*, Video Up-rate Conversion ^A (now CEO BrainFPV)
 28. R. Chin (NU BSc, 2008), *Undergraduate project*, Cardiac MRI image registration (now Abbott Medical Optics)
 29. A. Targowska (NU BSc, 2008), *Undergraduate project*, Painting Restoration ^A (now McAndrews, Held & Malloy, Ltd)
 30. A. Schlegel (NU-HSR, 2007), *diploma thesis*, Visiting scholar from HSR-Rapperswil Switzerland, Cine Cardiac MRI segmentation and tracking ^A
 31. V. Andermatt (NU-HSR, 2007), *diploma thesis*, Visiting scholar from HSR-Rapperswil Switzerland, Cine Cardiac MRI segmentation and tracking ^A
 32. D. Shiel (NU MSc, 2007), *Thesis*, AV Speech Recognition with Active Contour ^A (now Verizon)
 33. R. Ahuja (NU MSc, 2006), *Thesis*, DNA Microarray Image Analysis ^A (now CTO ZypMedia)
- Co-supervision:** **A** Together with Prof. Katsaggelos from Northwestern University (NU); **B** Together with Dr. Gozzi from Istituto Italiano di Tecnologia (IIT)

UNIVERSITY SERVICE

Board Member, MSc and Undergraduate study boards University of Edinburgh, School of Engineering, UK	<i>Jan 2016 – Present</i>
Committee Member, Research Data Service steering group University of Edinburgh, School of Engineering, UK	<i>June 2017 – Present</i>
Committee Member, Computing Committee IMT Institute for Advanced Studies Lucca, Italy	<i>September 2012 – Sept 2011</i>
Committee Member, Faculty Council IMT Institute for Advanced Studies Lucca, Italy	<i>January 2012 – Sept 2011</i>
Committee Member, Academic Council IMT Institute for Advanced Studies Lucca, Italy	<i>September 2011 – Sept 2011</i>
Committee Member, Graduate Student Advisor Committee McCormick School of Engineering & Applied Sciences, Northwestern University	<i>June 2004 – June 2006</i>
International Liaison, Chair Northwestern University Nanoalliance	<i>September 2004 – June 2006</i>
Committee Member, Graduate and Curriculum Committee Northwestern University, Department of Electrical Engineering and Computer Science	<i>September 2003 – September 2006</i>

MEMBERSHIP IN PROFESSIONAL BODIES

Italian Association for Pattern Recognition (Italian Chapter of IAPR)	<i>September 2012– Present</i>
Society for Cardiovascular Magnetic Resonance (SCMR)	<i>December 2010 – Present</i>
International Society for Magnetic Resonance in Medicine (ISMRM)	<i>February 2008 – Present</i>
Institute of Electrical and Computer Engineers (IEEE)	<i>July 2002 – Present</i>
Hellenic Association of Mechanical & Electrical Engineers	<i>November 2000 – 2011</i>
Technical Chamber of Greece	<i>November 2000 – 2011</i>

CONFERENCE TALKS AND INVITED PRESENTATIONS (SELECTED)

Invited Conference Presentations and Keynotes

1. "Deep (machine) learning in phenotyping", Keynote Talk, Phenome 2018, February, Arizona, USA.
2. "Machine learning can empower trait extraction in affordable phenotyping", Invited talk, IPPN Affordable Phenotyping Workshop, 15-17 May 2017, Jülich, Germany
3. "Computer Vision and Plant Phenotyping -a match made in heaven", Keynote Talk at British Machine Vision Association (BMVA) meeting on BMVA technical meeting: Plants in Computer Vision, Host: Dr. Dee, Nov. 2016.
4. "Easy Plant Phenomics," Scientific support to agriculture: competitiveness, quality and sustainability, European Commission, Joint Research Center, Athens, Greece, April 2014.
5. "Universal Microarrays with Thermodynamically Diverse Probes," *4th International Workshop on Nanosciences & Nanotechnologies (NN07)*, Thessaloniki Greece, 16-18 July 2007.
6. "DNA-Based Digital Signal Processing and its Application to Engineering Problems," Plenary Talk at *First International Meeting on Applications of DNA Computing to Engineering Problems*, Meiji University, Tokyo, Japan, Sept. 2005.

Invited Seminar Presentations

7. "Learning to synthesize signals and images," Bristol Vision Institute, 17 Nov 2017, Host: Prof. Bull.
8. "Phenotyping, computer vision, and sensing -a match made in heaven", Queen Mary University London, Host: Prof. Cavallaro, Nov. 2016.
9. "Affordable imaging of plants and trait analysis with Phenotiki", Science and Advice for Scottish Agriculture (SASA), Host: Prof. Sadler, June 2016.
10. "Towards automated pixel-wise detection and visualization of area at risk at rest without contrast agents using cardiac BOLD MRI", Cedars Sinai Medical Center, Host: Dharmakumar, Jan 2016.
11. "Personalized 'needle-free' imaging for cardiac MRI," Yale University, Host: Prof. Papademetris, Jan 2016.
12. "Affordable plant phenotyping: the challenges and opportunities," The University of Nottingham, Host: Prof. Pridmore, Nov. 2015.
13. "Personalized 'needle-free' imaging for cardiac MRI," University of Sheffield, Host: Prof. Frangi, Nov. 2015.
14. " 'Needle free' ischemia assessment with cardiac BOLD MRI," Queens Medical Research Institute (Edinburgh), Host: Dr Semple, Nov. 2015.
15. "Computer Vision and Phenotyping-A Match Made in Heaven", Italian Institute of Technology, Host: Prof. Murino, June 2015.
16. "Towards personalized 'one button imaging' for cardiac MRI," The University of Edinburgh, Host: Dr. Safari, June 2015.
17. "Affordable plant phenotyping: the challenges and opportunities," Juelich, Host: Dr. Scharr, Dec. 2014.
18. "Affordable Plant Phenotyping," ENEA C.R. Casaccia UTAGRI - Green Biotechnologies Laboratory, Host: Dr. Giuliano, April 2013.
19. "Imaging-based phenotyping for life sciences," Dip. di Ingegneria dell'Informazione Università di Siena, Host: Prof. Gori, March 2012.
20. "Intelligent Video Compression for Tracking Applications," Dip. di Elettronica - Politecnico di Torino, Host: Prof. Magli, June 2010.
21. "Research in the intersection of signal processing and life sciences: From DNA and AFM, to MRI and back," *University of Pennsylvania*, Dept. of Radiology, Host: Prof. Davatzikos, July 2008.
22. "Digital Signal Processing and Life Sciences: A Multiview Perspective," *University of Chicago*, Dept. of Ecology and Evolution, Host: Prof. Borevitz, April 2008.
23. "The Molecular and Organic Future of Digital Signal Processing," *University of Illinois at Chicago*, Dept. of Electrical and Computer Engineering, Host: Dr. Schonfeld, Oct 2007.
24. "Simulations of DNA based storage of digital signals," *University of Tokyo*, Japan, Host: Prof. Suyama, Sept 2005.
25. "The Molecular Future of Digital Signal Processing,"
 - a. *Hong Kong University of Science & Technology*, Hong Kong, Host: Prof. Au, Sept 2005.
 - b. *Uppsala University*, Uppsala Sweden, Host: Prof. Stoika, Aug 2005.
 - c. *Ericsson Research*, Kista Sweden, Host: Dr. Karlsson, Aug 2005.
26. "DNA-Based Digital Signal Processing: Theory and Applications," *1st Kellogg Nanobusiness Conference: Exploring Opportunities in Nanobusiness*, Evanston, IL, USA, April 2004.
27. "DNA Computing: Applications in DSP, Security and Biotechnology," *Integrated Genomics*, Chicago, IL, Host: Dr. Kyrpides, March 2004.

MAJOR COLLABORATORS

Within University of Edinburgh:

- Royal Infirmary (Prof. Newby, Dr Dweck, Dr Semple): Cardiac MRI
- School of Biological Sciences (Prof. Halliday, Dr Doerner, Dr McCormick): plant imaging

Other Universities/non-profits:

- Cedars-Sinai Medical Center (Profs Dharmakumar, Li; USA): Cardiovascular MRI
- Northwestern University (Prof. Katsaggelos; USA): Image Restoration, Compression
- Forschungszentrum Jülich (Dr. Scharr; Germany): Computer vision in agriculture
- Univ. of Nottingham (Prof. Pridmore): Computer vision in agriculture
- iPlant Collaborative (Drs. Vaughn, Merchant, Noutsos; USA): Plant imaging, phenotyping

Industry:

- Toshiba Medical Visualization Systems (Dr Ian Poole, Dr Andy Smout, UK): Deep learning
- Siemens Healthcare (Dr. Sven Zuehlsdorff; USA, Germany): Cardiovascular MRI
- Multyvac (PiCloud Computing Inc.) (Mrs. Anthony Tin, CEO, Mr. Ken Elkabany, ex-CEO; USA): Large scale image analysis and cloud computing

SOFTWARE AND DATASETS

- **Phenotiki:** Open source open hardware platform for affordable plant phenotyping <http://phenotiki.com>, as of now has been downloaded by 50 users and is actively used by 30 labs in the world
- **The PRL – CVPPP dataset:** A collection of annotated data for computer vision research in plant phenotyping <https://www.plant-phenotyping.org/datasets>, as of now it has been downloaded 740 times, and cited 24 times.
- **Circulant Dictionary Learning:** An explicit formulation to shift invariant dictionary learning in MATLAB, till Sept 2016, the software as used by 40 researchers.
- **Mouse MRI Phenotyping:** A collection of pipelines (scripts) for mouse phenotyping based on [ANTs](#)
- **Large Scale Image Analysis on Commercial Clouds:** A collection of python functions for PiCloud
- **A toolbox for Plant Phenotyping:** A MATLAB and [Bisque-iPlant](#) hosted implementation for plant segmentation and analysis
- **TiXiS-PiXiS:** DNA thermodynamics toolbox for MATLAB

MEDIA COVERAGE

Painting (Matisse) Colorization

- **more than 5000 appearances in online and print media**
- **Interviews and Articles (chronological order):**
 - *The New York Times*, 9 July 2010 ([link](#))
 - *McCormick News*, 12 July 2010 ([link](#))
 - *Northwestern University Front page*, 12 July 2010 ([link](#))
 - MSNBC's Cosmic Log, 12 July 2010 ([link](#))
 - *PhysOrg*, 12 July 2010 ([link](#))
 - *MIT Technology Review*, 19 July 2010 ([link](#))
 - *The Daily Northwestern*, 22 July 2010 ([link](#))
 - *TA NEA*, Greek Newspaper, 31 July 2010 ([link](#))
 - *McCormick Magazine*, Fall 2010 ([link](#))
 - *ΤΕΧΝΟΓΡΑΦΗΜΑ*, Article in Greek, Journal of Technical Chamber of Greece, 15 January 2011 ([link](#))
 - *Καθημερινή*, Greek Newspaper, 3 March 2011 ([link](#))

DNA-based digital signal processing

- **more than 3000 appearances in online and print media**
- **Interviews and Articles (chronological order):**
 - *McCormick News*, April 4 2008 ([link](#))
 - *PhysOrg*, April 7 2008 ([link](#))
 - *Science Daily*, April 8 2008 ([link](#))

PUBLICATIONS

Publication summary and bibliographic indicators (according to Google Scholar as of 6/Nov/2017):

Number of publications:	45 Journals, 86 Conferences
Number of publications since 2015:	15 Journals and 15 Conference
H-index:	20
Highest cited article:	F. Jiang et al, 2011, 133 citations
Article with highest number of citations per year (since publication):	Scharr et al, 2016, 30 citations since
Total number of citations:	1244
Highest Impact Factor:	Journal of Clinical Investigation 12.78
Average Impact Factor of journal papers:	4.1

List of publications

Publications are presented in reverse chronological order. When possible, links to available PDF preprints are indicated as [\[PDF\]](#) or links to the publishers websites are indicated as [\[Full text\]](#).

Preprints can also be found at <http://tsaftaris.com/Publications.html>

Underlined names indicate (ex or current) student/RA/postdoc.

Those that have appeared since 2015 (when I joined the University of Edinburgh are demarked by a left vertical line, example:

| I. Oksuz, A. Mukhopadhyay, R. Dharmakumar and S. A. Tsaftaris, 'Unsupervised Myocardial Segmentation for Cardiac BOLD,' in *IEEE Transactions on Medical Imaging*, in press, 2017

Each paper contains in brackets the following **[IF: XX; yyC]** where XX denotes impact factor (2017) when available and yyC denotes current number of citations as reported by Google Scholar, when available.

□□ Denotes 5 **significant** publications.

Refereed International Journals

1. □ I. Oksuz, A. Mukhopadhyay, R. Dharmakumar and S. A. Tsaftaris, 'Unsupervised Myocardial Segmentation for Cardiac BOLD,' in *IEEE Trans on Medical Imaging*, in press, 2017 [[Full text](#)][[PDF](#)] [IF: 3.94]
2. □ A. Chartsias, T. Joyce, V. Giuffrida, and S. A. Tsaftaris, 'Multimodal MR Synthesis via Modality-Invariant Latent Representation,' in *IEEE Trans on Medical Imaging*, in press, 2017 [IF: 3.94]
3. V. Giuffrida, F. Chen, H. Scharr, and S.A. Tsaftaris, "Citizen crowds and experts: Observer variability in image-based plant phenotyping," under revision, *Plant Methods*. [IF: 3.51]
4. Suinesiaputra, A, Ablin, P, Alba, X, Alessandrini, M, Allen, J, Bai, W, Cimen, S, Claes, P, Cowan, B, D'hooge, J, Duchateau, N, Ehrhardt, J, Frangi, A, Gooya, A, Grau, V, Lekadir, K, Lu, A, Mukhopadhyay, A, Oksuz, I, Parajuli, N, Pennec, X, Pereanez, M, Pinto, C, Piras, P, Rohe, M-M, Rueckert, D, Saring, D, Sermesant, M, Siddiqi, K, Tabassian, M, Teresi, L, Tsaftaris, S, Wilms, M, Young, A, Zhang, X & Medrano-Gracia, P, 'Statistical shape modeling of the left ventricle: myocardial infarct classification challenge' *IEEE Journal of Biomedical and Health Informatics*. 2017 [[Full text](#)] [IF: 3.45; 4C]
5. Yang, H-J, Dey, D, Sykes, J, Klein, M, Butler, J, Kovacs, M, Sobczyk, O, Sharif, B, Bi, X, Kali, A, Cokic, I, Tang, R, Yumul, R, Conte, A, Tsaftaris, S, Tighiouart, M, Li, D, Slomka, PJ, Berman, D, Prato, F, Fisher, J & Dharmakumar, R, 'Arterial CO2 as a Potent Coronary Vasodilator: A Preclinical PET/MR Validation Study with Implications for Cardiac Stress Testing' *Journal of Nuclear Medicine*. 2017 [[Full text](#)] [IF: 6.64]
6. □ M. Minervini, V. Giuffrida, P. Perata, S. A. Tsaftaris, "Phenotiki: An open software and hardware platform for affordable and easy image-based phenotyping of rosette-shaped plants," *The Plant Journal*, vol. 90, no. 1, pp. 204-16, April 2017. [[Full text](#)] [IF: 5.9; 5C]
7. S.A. Tsaftaris, M. Minervini, H. Scharr, "Machine Learning for Plant Phenotyping Needs Image Processing," *Trends in Plant Science*, vol 21, no. 12, pp.989-91, Dec. 2016. [[PDF](#)][[Full text](#)] [IF: 11.9; 7C]
8. (editorial) H. Scharr, H. Dee, A.P. French, S.A. Tsaftaris, "Special issue on computer vision and image analysis in plant phenotyping," *Machine Vision and Applications*, 2016, vol. 27, no. 5, pp. 607-9. [[Full text](#)] [IF: 2.00; 2C]
9. M. Pagani, M. Damiano, S.A. Tsaftaris, and A. Gozzi, "Semi-automated registration-based anatomical labelling, voxel based morphometry and cortical thickness mapping of the mouse brain," *Journal of Neuroscience Methods*, ahead of print 15 Jul 2016. [[PDF](#)] [[Full text](#)] [IF: 2.55; 10C]
10. R.B. Uriarte, F. Tiezzi, S.A. Tsaftaris, "Supporting Autonomic Management of Clouds: Service Clustering with Random Forest," *IEEE Transactions on Network and Service Management*, May 2016. [[PDF](#)] [[Full text](#)] [IF: 3.13; 2C]
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