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14. ABSTRACT
SampTA (Sampling Theory and Applications) is a biennial interdisciplinary international conference for mathematicians, engineers, and applied scientists. The main purpose of SampTA is to exchange recent advances in sampling theory and to explore new trends and directions in the related areas of application. This document gives our final report on SampTA 2015, which was held at American University the week of May 25-29, 2015.

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Report Title

Final Report: Conference: Sampling Theory and Applications (SampTA 2015)

ABSTRACT

SampTA (Sampling Theory and Applications) is a biennial interdisciplinary
international conference for mathematicians, engineers, and applied scientists. The main purpose of SampTA is to exchange recent advances in sampling theory and to explore new trends and directions in the related areas of application. This document gives our final report on SampTA 2015,
which was held at American University the week of May 25-29, 2015.

SampTA 2015 had 203 attendees. Presentations and papers presented broke down
as follows. There were 8 one hour plenary talks, 130 25 minute talks, and 15 posters. SampTA 2015 achieved some rather notable milestones.
The meeting was endorsed by the Institute of Electrical and
Electronics Engineers (IEEE) and the Society for Industrial
and Applied Mathematics (SIAM). The conference papers were published
in IEEE Xplore. A special of Sampling Theory in Signal and Image Processing (STSIP) is under preparation, and an invited book for the Birkhauser ANHA series is in preparation.

Enter List of papers submitted or published that acknowledge ARO support from the start of the project to the date of this printing. List the papers, including journal references, in the following categories:

(a) Papers published in peer-reviewed journals (N/A for none)

Received	Paper

TOTAL:

Number of Papers published in peer-reviewed journals:

(b) Papers published in non-peer-reviewed journals (N/A for none)

Received	Paper

TOTAL:

Number of Papers published in non peer-reviewed journals:

(c) Presentations

Number of Presentations: 0.00

Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received Paper

TOTAL:

Number of Non Peer-Reviewed Conference Proceeding publications (other than abstracts):

Peer-Reviewed Conference Proceeding publications (other than abstracts):

Received Paper

TOTAL:

Number of Peer-Reviewed Conference Proceeding publications (other than abstracts):

(d) Manuscripts

Received Paper

TOTAL:

Number of Manuscripts:

Books

Received Book

TOTAL:

Received Book Chapter

TOTAL:

Patents Submitted

Patents Awarded

Awards

The meeting was endorsed by the Institute of Electrical and Electronics Engineers (IEEE) and the Society for Industrial and Applied Mathematics (SIAM). The conference papers were published in IEEE Xplore. There is a special issue of STSIP of longer papers associated with the conference, and a book in the Birkhauser AHNA series is forthcoming.

Graduate Students

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Post Doctorates

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Faculty Supported

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Names of Under Graduate students supported

NAME	PERCENT_SUPPORTED

FTE Equivalent:
Total Number:

Student Metrics

This section only applies to graduating undergraduates supported by this agreement in this reporting period

The number of undergraduates funded by this agreement who graduated during this period: 0.00

The number of undergraduates funded by this agreement who graduated during this period with a degree in science, mathematics, engineering, or technology fields:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and will continue to pursue a graduate or Ph.D. degree in science, mathematics, engineering, or technology fields:..... 0.00

Number of graduating undergraduates who achieved a 3.5 GPA to 4.0 (4.0 max scale):..... 0.00

Number of graduating undergraduates funded by a DoD funded Center of Excellence grant for Education, Research and Engineering:..... 0.00

The number of undergraduates funded by your agreement who graduated during this period and intend to work for the Department of Defense 0.00

The number of undergraduates funded by your agreement who graduated during this period and will receive scholarships or fellowships for further studies in science, mathematics, engineering or technology fields:..... 0.00

Names of Personnel receiving masters degrees

NAME

Total Number:

Names of personnel receiving PHDs

NAME

Total Number:

Names of other research staff

NAME	PERCENT_SUPPORTED
FTE Equivalent:	
Total Number:	

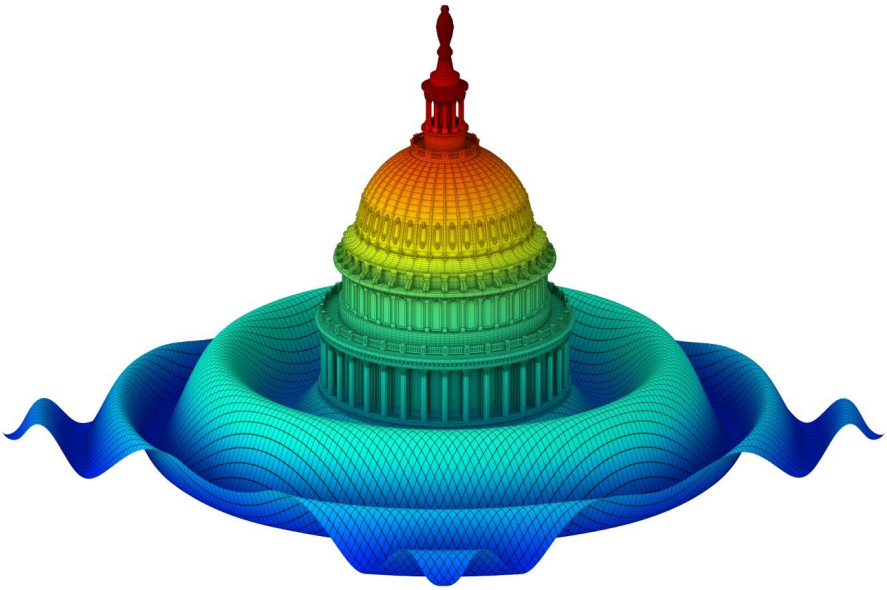
Sub Contractors (DD882)

Inventions (DD882)

Scientific Progress

See Abstract and Awards.

Technology Transfer



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Proposal Number 66478-NS-CF
Agreement Number W911NF-15-1-0217
Final Report on
Sampling Theory and Applications
SampTA 2015
American University
Washington, D.C.
May 25–29, 2015

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Abstract

SampTA *(Sampling Theory and Applications)* is a biennial interdisciplinary international conference for mathematicians, engineers, and applied scientists. The main purpose of SampTA is to exchange recent advances in sampling theory and to explore new trends and directions in the related areas of application. This document gives our final report on SampTA 2015, which was held at American University the week of May 25–29, 2015.

SampTA 2015 had 203 attendees. Presentations and papers presented broke down as follows. There were 8 one hour plenary talks, 130 25 minute talks, and 15 posters. SampTA 2015 achieved some rather notable milestones. The meeting was endorsed by the *Institute of Electrical and Electronics Engineers (IEEE)* and the *Society for Industrial and Applied Mathematics (SIAM)*. The conference papers were published in *IEEE Xplore*.

• **The intellectual merit of** SampTA **2015:** The SampTA conferences are a bridge between the mathematical and engineering signal processing communities. The mix between mathematicians and engineers is unique, and leads to extremely useful and constructive dialog between the two communities. SampTA 2015 had sessions on theory – compressed sensing, frames, geometry, wavelets, non-uniform and weighted sampling, finite rate of innovation, universal sampling, time-frequency analysis, operator theory, and application – A-to-D conversion, computational neuroscience, mobile sampling issues, and biomedical applications. The interaction at SampTA pushed the envelopes on these topics forward in both communities. We again brought together world-renowned mathematicians and engineers to work on these subjects.

• **The broader impacts resulting from** SampTA **2015:** The SampTA conferences have and will continue to serve as a meeting ground for harmonic analysts and electrical engineers, and give graduate students and junior investigators a chance to learn about the developments of the subjects. SampTA 2015 gave the community an opportunity to interact with some of the leaders in the field in a relaxed and yet very constructive environment. The plenary talks were delivered by top researchers in the fields. The conference papers were reviewed and presented via the *EDAS* system, and then uploaded into *IEEE Xplore*. There is a call for longer papers to be published in a special double issue of *Sampling Theory in Signal and Image Processing (STSIP)*. Plenary and special sessions speakers will be invited to contribute a chapter in a forthcoming Springer-Birkhäuser book in the *Applied and Numerical Harmonic Analysis Series*.

Contents

1 Introduction: Overview of SampTA

SampTA *(Sampling Theory and Applications)* is a biennial interdisciplinary international conference for mathematicians, engineers, and applied scientists. The main purpose of SampTA is to exchange recent advances in sampling theory and to explore new trends and directions in the related areas of application. This document gives our final report on SampTA 2015, which was held at American University the week of May 25–29, 2015.

SampTA has focused on such fields as signal processing and image processing, coding theory, control theory, real analysis and complex analysis, harmonic analysis, and the theory of differential equations. The conference has always featured plenary talks by prominent speakers, special sessions on selected topics reflecting the current trends in sampling theory and its applications to the engineering sciences, as well as regular sessions about traditional topics in sampling theory, and poster sessions.

Previous SampTA Meetings

- SampTA 2013 – Jacobs University, Bremen, Germany, July 1-5, 2013
- SampTA 2011 – Nanyang Technical University, Singapore, May 2-6, 2011
- SampTA 2009 – CIRM, Marseilles, France, May 18-22, 2009
- SampTA 2007 – Aristotle University, Thessaloniki, Greece, June 1-5, 2007
- SampTA 2005 – Samsun, Turkey, July 10-15, 2005
- SampTA 2003 – Strobl, Austria, May 26-30, 2003
- SampTA 2001 – UCF, Orlando Florida, U.S.A., May 13-17, 2001
- SampTA 1999 – Loen, Norway, August 11-14, 1999
- SampTA 1997 – University of Aviero, Aveiro, Portugal, July 16-19, 1997
- SampTA 1995 – Riga, Latvia, September 20-22, 1995

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2 SampTA 2015 – Overview

SampTA 2015 included papers on signal and image processing, compressed sensing, frames, geometry, wavelets, non-uniform and weighted sampling, finite rate of innovation, universal sampling, time-frequency analysis, operator theory, and, of course, traditional sampling from both a mathematical and engineering perspective (A-to-D conversion). SampTA 2015 had 203 attendees. There were 8 plenary talks and 145 scheduled presentations.

SampTA 2015 achieved some rather notable milestones:

- The meeting was endorsed by the *Institute of Electrical and Electronics Engineers (IEEE)* and the *Society for Industrial and Applied Mathematics (SIAM).*

- The conference papers were published in *IEEE Xplore*.

The SampTA conferences have and will continue to serve as a meeting ground for harmonic analysts and electrical engineers, and will give graduate students and junior investigators a chance to learn about the developments of the subjects. SampTA 2015 gave the community an opportunity to interact with some of the leaders in the field in a relaxed and yet very constructive environment. The plenary talks were delivered by top researchers in the fields. The conference papers were reviewed and presented via the *EDAS* system, and then uploaded into *IEEE Xplore*. There is a call for longer papers to be published in a special double issue of *Sampling Theory in Signal and Image Processing (STSIP)*, and plenary and special sessions speakers will be invited to contribute a chapter in a forthcoming book in *SampTA 2015*, a Springer-Birkhäuser book in the *Applied and Numerical Harmonic Analysis Series*.

2.1 Papers and Presentations at SampTA 2015

SampTA 2015 had 203 attendees. Presentations and papers presented broke down as follows.

Paper and Talk Statistics for SampTA 2015

Description	Quantity
Total Number of plenaries (1 hour talks)	8
Total number of paper submissions	168
Total number of 25 minute talk slots	130
Total number of posters	15
Total number of posters not presented	1
Total number of talks not presented	5

Notes:

a.) not all talks had associated papers (some invited speakers did not submit papers).

b.) 3 authors did not want their papers sent to *IEEE Xplore*,

c.) 3 authors did not follow the *IEEE* Copyright instructions by the deadline.

d.) the 6 papers mentioned above, and the papers not presented at the meeting were not submitted to *IEEE Xplore*, consistent with *IEEE* policy.

The conference proceedings can be found at this website.

2.2 Plenary Talks and Special and General Sessions at SampTA 2015

Previous SampTA meetings have lasted a full week (Monday – Friday). SampTA 2015 followed this tradition. The following technical events occured:

- 8 Plenary Lectures (1 hour each),
- 10 Invited Sessions,

- 8 General Sessions, totaling to 108 – 20 minute talks,
- 1 Poster Session (2 hours, 20 minutes).

Plenary Speakers for SampTA 2015

Name	Affiliation
Richard G. Baraniuk	Rice University
Robert Calderbank	Duke University
Laurent Demanet	Massachusetts Institute of Technology
Yonina Eldar	Technion
Pascal Frossard	École Polytechnique Fédérale de Lausanne
Stanley Osher	University of California Los Angeles
Thomas Strohmer	University of California Davis
Alexander Ulanovskii	University of Stavanger

Special Sessions for SampTA 2015

Frame Theory	G. Kutyniok, G. Pfander
Dynamic Mobile and Nonlinear Sampling	R. Aceksa, J. Romero, Q. Sun
Sampling in Non-Euclidean Spaces	G. Olafsson
Low Rank Matrix and Tensor Recovery	H. Rauhut
Universal Sampling, Fourier Frames and Riesz Bases of Exponentials	J. Antezana, J. Marzo
Compressed Sensing and Sparsity Based Regularizations	B. Adcock, F. Krahmer
Phase Retrieval	B. Bodmann
A to D Algorithms and Chip Design	L. Fesquet, S. Hoyos, B. Sadler
Sampling Signals with Finite Rate of Innovation in Biomedical Applications	P. Marziliano
Sampling and Stochastic Processes	M. Unser

General Sessions for SampTA 2015

Title and Session Number	Number of Talks	Session
Uncertainty and the PSF (I)	6	Mon Mrn
Sampling and Operators (II)	5	Mon Aft 1
General Frame Theory (III)	6	Mon Aft 2
Time Frequency Analysis (IV)	6	Mon Aft 2
Frame Theory and Sparsity (V)	6	Tu Mrn
Adaptive and Weighted Signal Processing (VI)	5	Tu Aft
Wavelets (VII)	6	Wed Mrn
Compressive Sensing 1 (VIII)	6	Th Mrn
Probabilistic and Statistical Methods (IX)	6	Th Aft 2
Nonuniform Sampling (X)	6	Th Aft 2
Compressive Sensing 2 (XI)	6	Fri Mrn
Inverse Problems (XII)	5	Fri Aft 1
Innovations in Sampling Theory (XIII)	6	Fri Aft 2
Optimality and Computation (XIV)	6	Fri Aft 2

SampTA 2015 drew 203 attendees over the course of the conference. Most participants stayed for the entire conference (five days of lectures). The conference consisted of two kinds of talks:

- Plenary talks attended by all participants, and
- Parallel sessions typically each attended by roughly half of the participants.

2.3 Benefit of SampTA to the ARO Community

The SampTA conferences are a bridge between the mathematical and engineering signal processing communities. The even mix between mathematicians and engineers is unique, and leads to extremely useful and constructive dialog between the two communities. SampTA 2015 had sessions on theory – compressed sensing, frames, geometry, wavelets, non-uniform and weighted sampling, finite rate of innovation, universal sampling, time-frequency analysis, operator theory, and application – A-to-D conversion, computational neuroscience, mobile sampling issues, and biomedical applications. All of these topics are of interest to the ARO community. Dr. Brian Sadler of ARL (IEEE and ARL Fellow) is on the Local Organizing Committee. For specific examples, there were several sessions related to compressed sensing. This topic is of interest to the ARO community, e.g., Computational Mathematics, Complex Networks, Information Systems, Probabilistic Representation, Signal and Image Processing (Areas II.c., II.d., II.e., II.j. of BAA W911NF-12-R-0012-02). Seminal work in Time-Frequency Analysis was discussed at SampTA. Again, this topic is of interest to APO, e.g., Computational Mathematics, Information Systems, Signal and Image Processing (Areas II.c., II.d., II.e., II.j. of BAA W911NF-12-R-0012-02).

The interaction at SampTA on the topics mentioned above pushed the envelopes forward in both the mathematics and engineering communities. The SampTA conferences have and will continue to serve as a meeting ground for harmonic analysts and electrical engineers, and will give graduate students and

junior investigators a chance to learn about the developments of the subjects. It gave the community an opportunity to interact with some of the leaders in the field in a relaxed and yet very constructive environment. The plenary talks were be delivered by top researchers in the fields. Each presenter at the conference submitted a short paper outlining their main results and justifying their inclusion in the conference. The conference papers were available electronically before the conference and on flash memory drives at registration. The conference papers were peer-reviewed for technical accuracy and topical relevance by the session organizers. Following on its effective use during SampTA 2013, the conference papers were be reviewed and prepared for publication via the *EDAS* system, and were published by *IEEE Xplore*. Longer papers will be published in a special double issue of *Sampling Theory in Signal and Image Processing (STSIP)*, and plenary and special sessions speakers will be invited to contribute a chapter in a forthcoming book in *SampTA 2015*, a Springer-Birkhäuser book in the *Applied and Numerical Harmonic Analysis Series*.

3 SampTA 2015 Organizing Committees

American University faculty took the lead in organizing the logistics of the conference. The organizing, technical, and steering committees are indicated in the following tables.

Local Organizing Committee for SampTA 2015

Name	Affiliation	Expertise
Stephen D. Casey, Chair	American University	Complex and Harmonic Analysis
Michael Robinson, Publications	American University	Topological Signal Processing
Kevin Duke, Finances	American University	Harmonic Analysis
Brian M. Sadler	Army Research Lab	Signal Processing
Kasso A. Okoudjou	University of Maryland	Harmonic Analysis

Publications Committee for SampTA 2015

Name	Affiliation	Expertise
Michael Robinson, Chair	American University	Topological Signal Processing
Kasso A. Okoudjou	University of Maryland	Harmonic Analysis
Brian M. Sadler	Army Research Lab	Signal Processing

Finance Committee for SampTA 2015

Name	Affiliation	Expertise
Kevin Duke, Chair	American University	Harmonic Analysis
Stephen D. Casey	American University	Complex and Harmonic Analysis
Michael Robinson	American University	Topological Signal Processing

Technical Committee for SampTA 2015

Name	Affiliation
Carlos Cabrelli	Universidad de Buenos Aires, Argentina
Paulo Ferreira	University of Aveiro, Portugal
Vivek Goyal	Boston University, USA
Anders Hansen	Cambridge University, England
Pina Marziliano	Nanyang Technological University, Singapore
Götz Pfander	Jacobs University, Bremen, Germany

Steering Committee for SampTA

Name	Affiliation
Ahmed Zayed, Chair	DePaul University, USA
Akram Aldroubi	Vanderbilt University, USA
John Benedetto	University of Maryland, USA
Paul Butzer	RWTH Aachen, Germany
Yonina Eldar	Technion, Israel
Hans Feichtinger	University of Vienna, Austria
Paulo Ferreira	University of Aveiro, Portugal
Karlheinz Gröchenig	University of Vienna, Austria
Rowland Higgins	Anglia Polytechnic University, Cambridge, England
Abdul Jerri	Clarkson University, USA
Gitta Kutyniok	TU Berlin, Germany
Yuri Lyubarskii	Norwegian University of Science and Technology
Farokh Marvasti	Sharif University of Technology, Iran
Gerhard Schmeisser	Erlangen-Nürnberg University, Germany
Bruno Torrésani	Aix-Marseille Université, France
Michael Unser	École Polytechnique Fédérale de Lausanne, Switzerland

4 SampTA 2015 Schedule - Monday-Friday

4.1 Lecture/Presentation Schedule

SampTA 2015 lasted a full week (Monday – Friday). We included 8 Plenary Lectures (1 hour each), 10 Invited Sessions, and 8 General Sessions. This totaled 108 – 20 minute talks. We also had a 2 hour and 20 minute Poster Session. Including the social events, we planned the following schedule for each day of the conference. We had to make an adjustment on the first day because of an unannounced change in the dining schedule from American University Housing and Dining. We put Professor Calderbank's talk at 4 pm, took a dinner break, and finished the sessions that evening. Additionally, Professor Emerson cancelled on May 20th. Professor Ulanovskii graciously agreed to move his talk to Thursday afternoon, and we finished with the last sessions on Friday.

SampTA 2015 Week (Monday-Friday – May 25th–May 29th)

Day			
Monday	Welcome 8:15 am Sessions 1:20 – 5:20 pm	Plenary 8:40 – 9:40 am Plenary 5:30 – 6:30 pm	Sessions 10:00 – 12:00
Tuesday	Coffee 8:30 am Sessions 1:20 – 4:20 pm	Plenary 8:40 – 9:40 am Plenary 4:30 – 5:30 pm	Sessions 10:00 – 12:00 Posters 5:40 – 8:00 pm
Wednesday	Coffee 8:30 am DC Event	Plenary 8:40 – 9:40 am Conference Dinner	Sessions 10:00 – 12:00 Concert
Thursday	Coffee 8:30 am Sessions 1:20 – 5:20 pm	Plenary 8:40 – 9:40 am Plenary 5:30 – 6:30 pm	Sessions 10:00 – 12:00 Dinner/DC Event
Friday	Coffee 8:30 am Sessions 1:20 – 5:20 pm	Plenary 8:40 – 9:40 am	Sessions 10:00 – 12:00

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5 American University Facilities

SampTA 2015 consisted of two kinds of talks:

- Plenary talks attended by all participants, and
- Parallel sessions typically each attended by roughly half of the participants.

The conference occupied two lecture spaces, with one capable of seating all participants. Between session breaks, informal discussion was encouraged, with light refreshments served. It was also convenient for these discussions to be located adjacent to the lecture space. For these reasons, we reserved the lecture space in Ward Hall Rooms 1 and 2 for both kinds of the lectures and the atria of Ward to host the session breaks. The SampTA conference also offered a poster session as a way to diversify the topics of discussion and to encourage additional mingling of the participants. We hosted the poster session in the Mary Graydon Center Rooms 2-4.

AU Facilities for Lectures SampTA 2015

Room/Hall	Capacity	Use
Kay Spiritual Center	400	Opening Ceremony
Ward 1	388	Plenary Lectures/Invited Sessions
Ward 2	200	Invited & General Sessions
Hallways in Ward		Coffee breaks between sessions
Mary Graydon Center	400	Poster Session
SIS Atrium	400	Conference Dinner

American University's lecture facilities

SampTA conferences host additional events for the entertainment of the participants. American University has an exceptional concert facility – the Abramson Recital Hall. Pierre Bensusan's concert was in the Abramson Recital Hall.

American University's concert facilities

AU Facilities for Music SampTA 2015

Room/Hall	Capacity	Use
Abramson Recital Hall	213	Musical Event

6 Publications

Each presenter at the conference submitted a short paper outlining their main results and justifying their inclusion in the conference. Because a substantial number of attendees were also presenters, it is important that these papers be brief, yet informative. To aid attendees in selecting appropriate talks, the conference papers were available electronically at registration. Following a long-standing tradition in the engineering literature, each conference paper for SampTA 2015 was a maximum of five pages. This length was sufficient to contain a careful explanation of the problem to be addressed in the presenter's talk and some of the technical highlights of the solution, without going into extensive detail.

The conference papers were peer-reviewed for technical accuracy and topical relevance by the session organizers. Following on its effective use during SampTA 2013, the conference papers were be reviewed and published via the *EDAS* system, and were then uploaded to *IEEE Xplore*. Longer papers will be published in a special double issue of *Sampling Theory in Signal and Image Processing (STSIP)*, and plenary and special sessions speakers will be invited to contribute a chapter in a forthcoming book in *SampTA 2015*, a Springer-Birkhäuser book in the *Applied and Numerical Harmonic Analysis Series*.

Proceedings of SampTA Conferences

Meeting Affiliation	Number of Papers
SampTA 2015 – American University, Washington, DC, USA	145
SampTA 2013 – Jacobs University, Bremen, Germany	148
SampTA 2011 – Nanyang Technical University, Singapore	102
SampTA 2009 – CIRM, Marseilles, France	108
SampTA 2007 – Aristotle University, Thessaloniki, Greece	85
SampTA 2005 – Samsun, Turkey	86
SampTA 2003 – Strobl, Austria	91
SampTA 2001 – UCF, Orlando Florida, U.S.A.	86
SampTA 1999 – Loen, Norway	80
SampTA 1997 – University of Aviero, Aveiro, Portugal	86
SampTA 1995 – Riga, Latvia	60

Special Issues in *STSIP* for Previous SampTA Meetings

Volume Number	Meeting Affiliation	Number of Papers
Volumes 13 & 14	SampTA 2013	20
Volumes 11 & 12	SampTA 2011	10
Volume 10	SampTA 2009	10
Volume 8	SampTA 2007	11
Volume 6	SampTA 2005	12
Volume 3	SampTA 2003	14

Books Generated by Previous SampTA Meetings

Title	Editors	Meeting
Sampling Theory: A Renaissance	Pfander	SampTA 2013
New Perspectives on Approximation and Sampling	Zayed and Schmeisser	SampTA 2013
Proceedings of SampTA 2007	Atreas and Karanikas	SampTA 2007
Sampling, Wavelets, and Tomography	Benedetto and Zayed	SampTA 2001
Nonuniform Sampling: Theory and Applications	Marvasti	SampTA 1999
Modern Sampling Theory	Benedetto and Ferreira	SampTA 1997

7 Financial Report

The main costs for SampTA 2015 were for the plenary speakers, rentals, printing, staff, and events. AFOSR funding for SampTA 2015 was be used to pay for lecture hall rental fees, printing, review and publication of the conference proceedings, and general supplies. ARO funding was used for the plenaries. The estimates for the plenary speakers were based on current travel rates.

ARO funding for SampTA 2015 was used to pay for:

- plenary speaker travel,
- plenary speaker local costs.

The SampTA 2015 budget for items supported by ARO totalled to $18,500.00. This is described in the following table. We have cited both the budgeted amount and the amount actually spent.

ARO Funds Spent for SampTA 2015

Expense	Budgeted	Actual
TOTAL	$18,500.00	$ 13,506.00

The final total amount of ARO funds spent on SampTA 2015 was $13,506.00. This was a savings of $4,994.00. The main reason for this cost savings was the last minute (May 21st) cancellation of Professor Emerson. We then had an emergency meeting of the Steering Committee, and voted to rearrange the speaker schedule. Professor Ulanovskii graciously offered to move his talk to Thursday afternoon, and we ended the conference after the last session on Friday.

There were other reasons for cost savings. Every effort was made by the SampTA 2015 Local Organizing Committee to run the meeting as efficiently and cost effectively as possible. For example, the graphic designs for SampTA 2015 were created by Stephen Casey, with the assistance of his friend Randy Mays of the *Washington Post*. Mr. Mays donated his time and effort to the conference. The graphic layout for the program was done by Profs. Casey and Robinson, with Prof. Casey working in the LaTeXenvironment, and Prof. Robinson exporting the final technical schedule from EDAS. All conference materials were bought in bulk, and assembled by Profs. Casey, Duke, and Robinson working with a group of student helpers. All of these efforts added up, and resulted in SampTA 2015 operating well within budget.

8 Benefit of SampTA to the Signal and Image Processing Communities

The SampTA conferences are a bridge between the mathematical and engineering signal processing communities. The mix between mathematicians and engineers is unique, and leads to extremely useful and constructive dialog between the two communities. The conferences have had sessions on wavelets, coding, control, compressed sensing, sigma-delta, and, of course, sampling (A-to-D conversion). SampTA 2015 had sessions on theory – compressed sensing, frames, geometry, wavelets, non-uniform and weighted sampling, finite rate of innovation, universal sampling, time-frequency analysis, operator theory, and

application – A-to-D conversion, computational neuroscience, mobile sampling issues, and biomedical applications.

The interaction at SampTA has pushed the envelopes forward in both the mathematics and engineering communities. The SampTA conferences have and will continue to serve as a meeting ground for harmonic analysts and electrical engineers, and gives graduate students and junior investigators a chance to learn about the developments of the subjects. It gives the community an opportunity to interact with some of the leaders in the field in a relaxed and yet very constructive environment.

SampTA 2015 plenary talks were delivered by top researchers in the fields. Each presenter at the conference submitted a short paper outlining their main results and justifying their inclusion in the conference. The conference papers were available electronically at registration, and were given to attendees on flash memory drives and available on the conference website. The conference papers were peer-reviewed for technical accuracy and topical relevance by the session organizers and reviewers from the SampTA community. Following on its effective use during SampTA 2013, the conference papers were reviewed and published via the *EDAS* system. We then uploaded the papers into *IEEE Xplore*. (By virtue of SampTA's affiliation with the *IEEE*, all of the previous SampTA conference proceedings should be indexed by *IEEE Xplore*.) Longer papers will be published in a special double issue of *Sampling Theory in Signal and Image Processing (STSIP)*, and plenary and special sessions speakers will be invited to contribute a chapter in a forthcoming book in *SampTA 2015*, a Springer-Birkhäuser book in the *Applied and Numerical Harmonic Analysis Series*.

9 Appendix I: Technical Program

10 Appendix II: Original ARO Budget