Arnon Sturm

January 2023

CURRICULUM VITAE

• **Personal Details**

Name: Arnon Sturm

Date and place of birth: April 27, 1968 Beer-Sheva, Israel

Address and telephone number at work:
Department of Software and Information Systems Engineering,
Ben-Gurion University of the Negev, Israel
Phone: 054-4725555

ORCID - 0000-0002-4021-7752

• **Education**

B.Sc. - 1991-1995: Technion - Israel Institute of Technology, Haifa, Israel - Faculty of Industrial Engineering and Management. Graduated with honors.

M.Sc. - 1995-1999: Technion - Israel Institute of Technology, Haifa, Israel- Faculty of Industrial Engineering and Management

Advisor: Prof. Dov Dori

Thesis: Converting Object Process Methodology Analysis and Design Results to Database Schemes.

Ph.D. - 2000-2004: Technion - Israel Institute of Technology, Haifa, Israel- Faculty of Industrial Engineering and Management

Advisors: Prof. Dov Dori and Dr. Onn Shehory

Dissertation: Developing and Evaluating an Object Process Methodology-Based Multi-Agent Systems Framework.

• **Employment History** (in reverse chronological order, including sabbatical leave)

2019-date: Associate Professor, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

2011-2018: Senior Lecturer, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

2015-2018: Associate Professor (Status only), University of Toronto, Toronto, Canada.

2012-2014: on Sabbatical leave in University of Toronto.

2011: Tenure received

2005-2011: Lecturer, Ben-Gurion University of the Negev, Beer-Sheva, Israel.

2004-2005: Adjunct Faculty – Lecturer, Ben-Gurion University of the Negev, Beer -Sheva, Israel.

2004-2005: Adjunct Faculty – Lecturer, University of Haifa, Haifa, Israel.

2004-2005: Adjunct Faculty – Lecturer, Technion - Israel Institute of Technology, Haifa, Israel.

1996-2004: Teaching and Research Assistant, Technion - Israel Institute of Technology, Haifa, Israel.

2000-2001: Research Student, IBM Haifa Research Lab, Israel

1998-2000: Software Development Team Leader, Amdocs, Haifa, Israel.

1993-1998: Integration of Information and Real-time Systems' Manager, Rafael, Haifa, Israel.

• **Professional Activities** (in reverse chronological order)

(a) Positions in academic administration (departmental, faculty and university)

2020-date: Chairman of under graduated studies of the Software and Information Systems Department, Ben-Gurion University of the Negev, Beer Sheva, Israel

2015-date: Academic lead, Students think innovation in the public sector.

2014-2016: Head, Software Engineering Program, Ben-Gurion University of the Negev, Beer Sheva, Israel.

2015: Establish the program to prevent drop out of undergraduate students

2011-2012: Member of the Computing Committee, Faculty of Engineering Sciences, Ben-Gurion University of the Negev, Beer Sheva, Israel.

2006-2012: Member of the Internet Committee, Ben-Gurion University of the Negev, Beer Sheva, Israel.

2005-2012: Chairman of under graduated studies of the software engineering program, Ben-Gurion University of the Negev, Beer Sheva, Israel.

(b) Professional functions outside universities/institutions (inter-university, national, international)

2016-2020: Iltam – IT system – Group Leader

2015-date: Google Innovation in Public Sector - Academic Leader

2014-2015: Google Innovation in Public Sector - Mentor

(c) Significant professional consulting
NONE

d) Editor or member of editorial board of scientific or professional journal

International Journal of Information System Modeling and Design (IJISMD)

(e) Ad-hoc reviewer for journals
Sustainability

Future Internet

Communication of the Association for Information Systems

Journal of Applied Mathematics & Information Sciences

Software and System Modeling

International Journal of Web Engineering and Technology.

Data and Knowledge Engineering.

Journal of Autonomous Agents and Multi-Agent Systems.

International Journal of Software Engineering and Knowledge Engineering.

IEEE Transactions on Systems, Man, and Cybernetics--Part B.

Journal of Database Management.

International Journal of Business Process Integration and Management

(f) Membership in professional/scientific societies

2012-2017: ILAIS – Israeli Chapter of the Association of Information Systems

2009-date: Member IEEE - Institute of Electrical and Electronics Engineers

2009-date: Member ACM - Association for Computing Machinery

(g) Membership in conference committees

Co-Chair; Demos and Poster Track @ ER2021

Co-Chair; Domain Engineering & Ontology Modeling Track @ EMMSAD 2021.

Co-Chair; Domain Engineering & Ontology Modeling Track @ EMMSAD 2020.

Co-Chair; Information Systems (IS) & Requirements Modeling Track @ EMMSAD 2019.

Co-Chair; Information Systems Engineering Track @ CBI 2019.

Co-Chair; Educator Symposium; in conjunction with the Models 2015, Ottawa, Canada.

Co-Chair; Workshop on Domain Engineering 2009-2011

PC Member

IEEE International Conference on Software - Science, Technology and Engineering, 2005, 2012, 2016.

The Workshop on Integration of Software Engineering and Agent Technology 2005-2008,

The International Conference on Autonomous Agents and Multiagent Systems, 2007-2009.

The International Workshop on Agent Oriented Software Engineering, 2007-2009.

The International Conference on Advanced Information Systems, 2009-2016, 2020-2021.

The International Conference on Conceptual Modeling, 2010-2021.

The International Conference on Model Driven Engineering and Software Development, 2016-2021.

Models Educator Symposium – 2014-2018

Forum of the International Conference on Advanced Information Systems 2014-2021

ACM Student Research Competition – 2015-2019

Working Conference on Exploring Modeling Methods for System Analysis and Development – 2014 -2020

• Educational activities

(a) Courses taught

(BGU - Ben-Gurion University of the Negev, Beer Sheva, Israel; Technion - Israel Institute of Technology, Haifa, Israel)

Research Methods - BGU - Graduate

Project Seminars - BGU - Undergraduate

Advanced Programming - BGU – Undergraduate

Database Systems - BGU – Undergraduate

Object-Oriented Analysis and Design - BGU - Undergraduate

Agent-Oriented Software Engineering - BGU, Technion – Undergraduate, Graduate

Advance Topics in Software Engineering - BGU- Graduate

(The course theme is on domain engineering)

Advance Topics in Information Systems - BGU- Undergraduate

Analysis and Specification of Information Systems - Technion - Undergraduate

Software Engineering –Technion - Undergraduate

(b) Research students

Post Doc

2016 - 2018: Azzam Maraee, Postdoc, Research topic: Knowledge Mapping

Phd

2017 – (expected graduation 2022): Noa Roy-Hubara, Research topic: Database Selection and Design Method

2014 – 2020: Jumana Nassour-Kassis, Research topic: Building Conceptual Maps from Scientific Articles (jointly with Michael Elhadad)

MSc

2020: Maxim Bragilovski (jointly with Roni Stern)

2020: Itzik Gershfeld

2018-2019: Yarden Levi, (jointly with Roni Stern and Yuval Bitan)

2014: Navid Mahlouji, Research topic: A Method for Modeling and Analyzing Different Approaches to Agile BI (at UofT, jointly with Eric Yu)

2013-2014: Davide Calvaresi, i* as a Means for Exploring Technology Domains (at UofT, jointly with Eric Yu and Aldo Franco Dragoni)

2012-2013: Sadra Abrishamkar, Research topic: Goal-Oriented Know-how Mapping (at UofT, jointly with Eric Yu)

2010-2013: Ido Perez, Research topic: Software Development for Non-Programmers

2010-2011: Michal Dahan, Research topic: Experimenting functional requirement specification (jointly with Peretz Shoval)

2009-2010: Oded Kramer, Research topic: Improving Programming Productivity

2009-2010: Jenny Abramov, Research topic: A Methodology for Design and Implementation of Secure Databases (jointly with Peretz Shoval)

2005-2006: Roman Feldman, Thesis topic: Designing Data Warehouses with Object Process Methodology (at the Technion, jointly with Dov Dori)

• **Awards, Citations, Honors, Fellowships**

(a) Honors, Citation Awards (including during studies)

2001-2004: Israeli Higher Education Planning and Budgeting Committee (VATAT) scholarship for outstanding high-tech Ph.D. students

2000-2004: Technion - Israel Institute of Technology fellowships

1995: Technion - Israel Institute of Technology President’s list

1992 -1994: Technion - Israel Institute of Technology Dean’s list

• **Scientific Publications (PS)**

H-Index: ISI = 8, GS=23
Total number of citations of all articles: ISI =224, GS=1932
Total number of citations without self-citations: ISI = 198

(a) Authored books
NONE

(b) Editorship of collective volumes

1. Iris Reinhartz-Berger[PI], Arnon Sturm[PI], Tony Clark[PI], Sholom Cohen[PI], Jorn Bettin[PI] (2013) Domain Engineering: Product Lines, Languages, and Conceptual Models, Springer. (number of citations: ISI = , GS=22)
2. Onn Shehory[PI], Arnon Sturm[PI] (2014) Agent-Oriented Software Engineering: Reflections on Architectures, Methodologies, Languages, and Frameworks, Springer. (number of citations: ISI = , GS=26)
3. *Roman Lukyanenko[PI], Binny M. Samuel[PI], Arnon Sturm[PI], Proceedings of the ER Demos and Posters 2021 co-located with 40th International Conference on Conceptual Modeling (ER 2021), St. John's, NL, Canada, October 18-21, 2021. CEUR Workshop Proceedings 2958, CEUR-WS.org 2021

(c) Chapters in collective volumes - Conference proceedings, Festschrifte, etc.

- consecutive numbers

Workshops

Note that workshop papers in our community are unusually full-fledged papers of 8-15 LNCS pages and are accepted based on a thorough review process, with 2-4 reviews (these are marked as +)

1. Dov Dori[PI] and **Arnon Sturm**[S] (1998), Integrated Systems Engineering Environment through the Object-Process CASE Tool, Object Oriented Technology - ECOOP'98 Workshop Reader: ECOOP'98 Workshops, Demos, and Posters, Brussels, Belgium, July 1998, Springer, Lecture Notes in Computer Science 1543, 555-556.
   (number of citations: ISI = , GS=)
2. Iris Reinhartz-Berger[S], **Arnon Sturm**[S], and Dov Dori[PI] (2002), Modeling Events in Object-Process Methodology and in Statecharts, The Israeli Workshop on Programming Languages & Development Environments, July 1, 2002.
   (number of citations: ISI = , GS=3)
3. **+Arnon Sturm**[S] and Onn Shehory[PI] (2003), A Framework for Evaluating Agent-Oriented Methodologies, Paolo Giorgini, Brian Henderson-Sellers, and Michael Winikoff, The Fifth International Bi-Conference Workshop Agent-Oriented Information Systems, AOIS 2003, Melbourne, Australia, July 14, 2003 and

Chicago, IL, USA, October 13th, 2003, Revised Selected Papers, Lecture Notes in Computer Science 3030, 94-109. (AR=39%)
(number of citations: ISI = 25, GS=170)

4. +**Arnon Sturm**[S], Dov Dori[PI], and Onn Shehory[PI] (2004), Specifying Communication Aspects in Multi-Agent, The Second European Workshop on Multi Agent Systems, Barcelona, Spain, December 16-17, 2004, 673-684.
   (number of citations: ISI = , GS=1)
5. +Iris Reinhartz-Berger[PI], Pnina Soffer[PI], and **Arnon Sturm**[PI] (2005), A Domain Engineering Approach to Specifying and Applying Reference Models, Workshop of Enterprise Modelling and Information Systems Architectures, Klagenfurt, October 24-25, GI-LNI 75, 50-63.
   (number of citations: ISI = , GS=30)
6. +Pnina Soffer[PI], Iris Reinhartz-Berger[PI], and **Arnon Sturm**[PI] (2007), Facilitating Reuse by Specialization of Reference Models for Business Process Design, The Eighth Workshop on Business Process Modeling, Development, and Support (BPMDS'07).
   (number of citations: ISI = , GS=25) (AR=50%)
7. +**Arnon Sturm**[PI] (2008), Guiding System Modelers in Multi View Environments: A Domain Engineering Approach, Workshop on Exploring Modeling Methods for Systems Analysis and Design (EMMSAD'08)
   (number of citations: ISI = , GS=)
8. +**Arnon Sturm**[PI] (2008), Enabling Off-Line Business Process Analysis: A Transformation-Based Approach, The Ninth Workshop on Business Process Modeling, Development, and Support (BPMDS'08).
   (number of citations: ISI = , GS=7)
9. +**Arnon Sturm**[PI], Jenny Abramov[S], and Peretz Shoval[PI] (2009), Validating and Implementing Security Patterns for Database Applications, 3rd Workshop on Software Patterns and Quality (SPAQu'09) at OOPSLA 2009.
   (number of citations: ISI = , GS=7)
10. Oded Kramer[S] and **Arnon Sturm**[PI] (2009), The Relationships between Domain Specific and General-Purpose Languages, the Knowledge Industry Survival Strategy Initiative workshop at OOPSLA 2009.
    (number of citations: ISI =, GS=)
11. **Arnon Sturm**[PI] (2009), How to Choose a Metamodeling Approach, the Knowledge Industry Survival Strategy Initiative workshop at OOPSLA 2009.
    (number of citations: ISI = , GS=4)
12. +Oded Kramer[S], **Arnon Sturm**[PI] (2010), Bridging Programming Productivity, Expressiveness, and Applicability: a Domain Engineering Approach, The second Domain Engineering Workshop, Hammamet, Tunisia, June 7-8.
    (number of citations: ISI = , GS=1)
13. Mira Balaban[PI], Azzam Maraee[S], **Arnon Sturm**[PI] (2010), Management of Correctness Problems in UML Class Diagrams – Towards a Pattern-based Approach, IBM Programming Languages and Development Environments Seminar, Haifa, Israel, April 14, 2010.
    (number of citations: ISI = , GS=1)
14. +Jenny Abramov[S], **Arnon Sturm**[PI], Peretz Shoval[PI] (2011), A Pattern Based Approach for Secure Database Design, the International Workshop on Information Systems Security Engineering, London, UK, 20-24 June, 2011, 637-651.
    (number of citations: ISI=3 , GS=6)
15. +Jenny Abramov[S], Omer Anson[S], **Arnon Sturm**[PI], Peretz Shoval[PI] (2011), Tool Support for Enforcing Security Policies on Databases, CAiSE 11 Forum, UK, 20-

24 June, 2011, 41-48.
(number of citations: ISI = , GS=6)

16. +Iris Reinhartz Berger[PI], **Arnon Sturm[PI],** Arava Tsoury[S] (2011), Comprehension and Utilization of Core Assets Specifications in Software Product Line Engineering, CAiSE 11 Forum, UK, 20-24 June, 2011.
(number of citations: ISI = , GS=)
17. +Jenny Abramov[S], Omer Anson[S], **Arnon Sturm[PI]**, and Peretz Shoval[PI] (2012), Tool Support for Enforcing Security Policies on Databases, S. Nurcan (Ed.): CAiSE Forum 2011, LNBIP 107, pp. 126–141. (AR=50%)

(number of citations: ISI=1 , GS=6)

18. +Iris Reinhartz-Berger[PI], **Arnon Sturm[PI]**, Arava Tsoury[S] (2012) Evaluating Comprehension and Utilization of Variability Aspects in UML-Based Models. S. Nurcan (Ed.): CAiSE Forum 2011, LNBIP 107, pp. 156–171, 2012.
(number of citations: ISI = , GS=) (AR=50%)
19. Daniel Gross[PI], **Arnon Sturm[PI]**, Eric Yu[PI] (2013) Towards Know-how Mapping Using Goal Modeling, iStar 2013**,** 115-120.
(number of citations: ISI = , GS=6)
20. Jian Wang[PI], **Arnon Sturm[PI]**, Daniel Gross[PI], Eric Yu[PI] (2014) Know-How Mapping: From i* to ME-maps, i-Star 2014.
(number of citations: ISI = , GS=3)
21. Davide Calvaresi[S], **Arnon Sturm[PI]**, Eric Yu[PI], Aldo Franco Dragoni[PI] (2014) Exploring Domain Requirements and Technology Solutions: A Goal Modeling Approach, i-Star 2014.
(number of citations: ISI = , GS=4)
22. **+Arnon Sturm[PI]**, Daniel Gross[PI], Jian Wang[PI], Eric Yu[PI] (2014) Analyzing Engineering Contributions using a Specialized Concept Map, CAISE Forum 2014, 89-96.
(number of citations: ISI = , GS=2)
23. **+**Omar Badreddin[PI], **Arnon Sturm[PI]**, Timothy C. Lethbridge[PI] (2014), Requirement Traceability: A Model-Based Approach, The Fourth International Model-Driven Requirements Engineering (MoDRE) workshop, 87-91.
(number of citations: ISI = , GS=9)
24. +**Arnon Sturm[PI]**, Daniel Gross[PI], Jian Wang[PI], Soroosh Nalchigar[S], Eric Yu[PI] (2014), Mapping and Usage of Know-How Contributions. CAiSE Forum (Selected Extended Papers) 2014, 102-115. (AR=35%)
(number of citations: ISI = , GS=5)
25. +Iris Reinhartz-Berger[PI], Arnon Sturm[PI] and Tony Clark[PI] (2015), Exploring Multi-Level Modeling Relations Using Variability Mechanisms, MULTI workshop (at MODELS 2015)
(number of citations: ISI = , GS=3)
26. +Omar Badreddin[PI], Arnon Sturm[PI], Wahab Hamou-Lhadj[PI], Timothy C. Lethbridge[PI], Waylon Dixon[S] and Ryan Simmons[S] (2015), The Effects of Education on Students' Perception of Modeling in Software Engineering, First International Workshop on Human Factors in Modeling (at MODELS 2015)
(number of citations: ISI=4 , GS=8)
27. +Achiya Elyasaf[PI], Assaf Marron[PI], Arnon Sturm[PI], and Gera Weiss[PI], A Context-Based Behavioral Language for IoT, MORSE 2018 (at MODELS 2018).

(number of citations: ISI = , GS=)

28. +Jumana Nassour-Kassis[S], Michael Elhadad[PI], **Arnon Sturm[PI,** Goal-Oriented Representation of Scientific Papers, the 7th International Workshop on Mining Scientific Publications, 2018.
(number of citations: ISI = , GS=)

29. *+Achiya Elyasaf[PI],Arnon Sturm[PI], Towards a framework for analyzing context-oriented programming languages. COP@ECOOP 2021: 16-23
30. *+Noa Roy-Hubara, Arnon Sturm[PI], Peretz Shoval[PI], Designing Document Databases: A Comprehensive Requirements Perspective. ER (Workshops) 2021: 15-25
31. *Roman Lukyanenko[PI], Binny Samuel[PI], Veda Storey[PI], Arnon Sturm[PI], Conceptual Modeling Systems: A Vision for the Future of Conceptual Modeling, ER Forum 2022.

Conferences

1. Dov Dori[PI], Dagan Gilat[S], **Arnon Sturm**[S], Iris Berger[S], Victor Gindin[S], and Yaniv Even-Hayim[S] (1998), Integrated Systems Engineering Environment through the Object-Process CASE Tool, Informs Tel-Aviv, June 28 - July 1, 1998, Tel-Aviv, Israel. (number of citations: ISI = , GS=)
2. Dov Dori[PI] and **Arnon Sturm**[S] (1998), Integrated Systems Development Through OPCAT-Object-Process CASE Tool, The 10th Israeli Industrial Engineering & Management Conference, IE&M 98, Haifa, Israel, June 2-3, 1998. (number of citations: ISI = , GS=0)
3. Onn Shehory[PI] and **Arnon Sturm**[S] (2001), Evaluation of Modeling Techniques for Agent-Based Systems, The Fifth International Conference on Autonomous Agents, May 28-June 01, 2001, Montreal, Canada, 624-631. (AR=27%) (number of citations: ISI =145 , GS=158)
4. Onn Shehory[PI], Maria Goldstein[S], Adi Shulman[S], **Arnon Sturm**[S], and Boris Yurovitsky[S] (2002), Bi-concurrent Layered Architecture for eCommerce Agents, The First International Joint Conference on Autonomous Agents & Multiagent Systems, AAMAS 2002, July 15-19, 2002, Bologna, Italy, 1035-1036. (number of citations: ISI = , GS=2)
5. **Arnon Sturm**[S] and Onn Shehory[PI] (2002), Towards Industrially Applicable Modeling Technique for Agent-Based Systems, The First International Joint Conference on Autonomous Agents & Multiagent Systems, AAMAS 2002, July 15-19, 2002, Bologna, Italy, 39-40. (number of citations: ISI = , GS=6)
6. **Arnon Sturm**[S], Dov Dori[PI], and Onn Shehory[PI] (2003), Single-Model Method for Specifying Multi-Agent Systems, The Second International Joint Conference on Autonomous Agents & Multiagent Systems, AAMAS 2003, July 14-18, 2003, Melbourne, Victoria, Australia, 121-128. (AR=24.7%) (number of citations: ISI = , GS=69)
7. Dov Dori[PI], Iris Reinhartz-Berger[S], and **Arnon Sturm**[S] (2003), Developing Complex Systems with Object-Process Methodology Using OPCAT, Il-Yeol Song,Stephen W. Liddle, Tok Wang Ling, and Peter Cheuermann, The 22nd International Conference on Conceptual Modeling, Conceptual Modeling - ER 2003, Chicago, IL, USA, October 13-16, 2003, Lecture Notes in Computer Science 2813, 570-572. (number of citations: ISI = 18, GS=52)
8. Dov Dori[PI], Iris Reinhartz-Berger[S], and **Arnon Sturm**[S] (2003), OPCAT-A Bimodal CASE Tool for Object-Process Based System Development, The Fifth International Conference on Enterprise Information Systems, ICEIS 2003, Angers, France, April 22-26, 2003, 286-291. (number of citations: ISI = , GS=68)
9. **Arnon Sturm**[PI] and Iris Reinhartz-Berger[PI] (2004), Applying the Application-based Domain Modeling Approach to UML Structural Views, Paolo Atzeni, Wesley W. Chu, Hongjun Lu, Shuigeng Zhou, and Tok Wang Ling, The 23rd International Conference on Conceptual Modeling, Conceptual Modeling - ER 2004, Shanghai, China,

November 2004, Lecture Notes in Computer Science 3288, 766-779. (AR=19.3%)
(number of citations: ISI = 6, GS=16)

10. Iris Reinhartz Berger[PI] and **Arnon Sturm**[PI] (2004), Behavioral Domain Analysis – The Application-based Domain Modeling Approach, Thomas Baar, Alfred Strohmeier, Ana M. D. Moreira, Stephen J. MellorPublisher, The Seventh International Conference on UML 2004 - The Unified Modeling Language: Modeling Languages and Applications, Lisbon, Portugal, October 11-15, 2004, Lecture Notes in Computer Science 3273, 410-424. (AR=22%)
(number of citations: ISI =8 , GS=20)
11. Dov Dori[PI], Roman Feldman[S], and **Arnon Sturm**[PI] (2005), Transforming an Operational System Model to a Data Warehouse Model: A Survey of Techniques, IEEE International Conference on Software - Science, Technology and Engineering (SwSTE 2005), 22-23 February 2005, Herzelia, Israel, 47-56.
(number of citations: ISI = , GS=20)
12. Dov Dori[PI], Roman Feldman[S], and **Arnon Sturm**[PI] (2005), An OPM-based Method for Transformation of Operational System Model to Data Warehouse Model, IEEE International Conference on Software - Science, Technology and Engineering (SwSTE 2005), 22-23 February 2005, Herzelia, Israel, 57-66.
(number of citations: ISI = 3 , GS=8)
13. **Arnon Sturm**[PI], Dov Dori[PI], and Onn Shehory[PI] (2006), Domain Modeling with Object-Process Methodology, Yannis Manolopoulos, Joaquim Filipe, Panos Constantopoulos, and Jose Cordeiro, The Eighth International Conference on Enterprise Information Systems, ICEIS 2006: Databases and Information Systems Integration, Paphos, Cyprus, May 23-27, 2006. (AR=15.6%)
(number of citations: ISI = , GS=10)
14. **+Arnon Sturm**[PI], Dov Dori[PI], and Onn Shehory[PI] (2008), Engineering Mobile Agents, The Tenth International Conference on Enterprise Information Systems (ICEIS).
(number of citations: ISI = , GS=1)
15. Amir Gershman[S], Amnon Meisels[PI], Dr. Karl-Heinz Lük[PI], Lior Rokach[PI], Alon Schclar[PI], **Arnon Sturm**[PI] (2010), A Decision Tree Based Recommender System, the 10th International Conference on Innovative Internet Community Systems, Bangkok, Thailand, June 3-5, 2010.
(number of citations: ISI = , GS=24)
16. Michal Dahan[S], Peretz Shoval[PI], **Arnon Sturm**[PI] (2011), An Empirical Comparison between Two Methods for Defining Functional Requirements: Use Cases vs. OO-DFDs, MCIS 2011.
(number of citations: ISI = , GS=)
17. +Jenny Abramov[S] and **Arnon Sturm**[PI] (2010)**,** Supporting Layered Architecture Specifications: A Domain Modeling Approach, The 15th Conference on Exploring Modelling Methods for Systems Analysis and Design, Hammamet, Tunisia, June 7-8, 195-207. (number of citations: ISI = , GS=)
18. Iris Reinhartz Berger[PI], **Arnon Sturm**[PI], and Yair Wand[PI] (2011), External Variability of Software: Classification and Ontological Foundations, ER 2011, 275-289. (AR=16%)
(number of citations: ISI=4 , GS=15)
19. Ido Pérez[S], **Arnon Sturm**[PI]: Can End-Users Program? ECIS 2014.
(number of citations: ISI = , GS=1)
20. Alexei Lapouchnian[PI], Eric Yu[PI], **Arnon Sturm**[PI] (2015), Re-designing process architectures towards a framework of design dimensions. RCIS 2015: 205-210 (AR=26%)
(number of citations: ISI=2 , GS=12)

21. Alexei Lapouchnian[PI], Eric Yu[PI], **Arnon Sturm** (2015), Design Dimensions for Business Process Architecture, ER 2015 (AR=35%).
    (number of citations: ISI = , GS=4)
22. Azzam Maraee[PD], **Arnon Sturm**[PI] (2017), Formal Semantics and Analysis Tasks for ME-MAP Models, RCIS 2017 (AR=29%).
    (number of citations: ISI=1 , GS=2)
23. **Arnon Sturm**[PI], Eric Yu[PI], Sadra Abrishamkar[S] (2017) Know-how Mapping – A Goal-Oriented Approach and Evaluation, EMMSAD 2017 (AR=36%).
    (number of citations: ISI = , GS=1)
24. Adiel Ashrov[S], Michal Gordon[PI], Assaf Marron[PI], **Arnon Sturm**[PI], Gera Weiss[PI] (2017), Structured Behavioral Programming Idioms, EMMSAD 2017 (AR=36%).
    (number of citations: ISI = , GS=1)
25. Davide Calvaresi[S], Mauro Marinoni[PI], **Arnon Sturm**[PI], Michael Schumacher[PI], Giorgio C. Buttazzo[PI] (2017) The challenge of real-time multi-agent systems for enabling IoT and CPS. WI 2017: 356-364.
    (number of citations: ISI=3 , GS=23)
26. Tony Clark[PI], Ulrich Frank[PI], Iris Reinhartz-Berger[PI], **Arnon Sturm**[PI] (2017) A Multi-level Approach for Supporting Configurations: A New Perspective on Software Product Line Engineering. ER Forum/Demos 2017: 156-164
    (number of citations: ISI = , GS=)
27. Mira Balaban[PI], **Arnon Sturm**[PI] (2018) Software Engineering Lab – an Essential Component of a Software Engineering Curriculum, accepted SEET@ICSE
    (number of citations: ISI = , GS=)
28. **Arnon Sturm**[PI], Tim Lethbridge[PI] (2018) Are Our Students Engaged into Their Studies? Professional Engagement vs. Study Engagement accepted SEET@ICSE
    (number of citations: ISI = , GS=)
29. Azzam Maraee[PD], **Arnon Sturm**[PI] (2018) Reasoning Methods for ME-Maps -- A CSP based Approach, RCIS 2018
    (number of citations: ISI = , GS=)
30. Noa Roy-Hubara[S], **Arnon Sturm**[PI] (2018) Exploring the Design Needs for the New Database Era, EMMSAD 2018
    (number of citations: ISI = , GS=)
31. *Noa Roy-Hubara[S], Peretz Shoval[PI], **Arnon Sturm**[PI] (2019) A Method for Database Model Selection. BPMDS/EMMSAD@CAiSE 2019: 261-275
32. *Azzam Maraee[PD], **Arnon Sturm**[PI] (2019) The Usage of Constraint Specification Languages: A Controlled Experiment. BPMDS/EMMSAD@CAiSE 2019: 329-343
    Best Paper Award
33. *Fabiano Dalpiaz [PI], **Arnon Sturm** [PI] (2020) Conceptualizing Requirements using User Stories and Use Cases: A Controlled Experiment, Refsq 2020.
34. * Maxim Bragilovski, Yifat Makias, Moran Shamshila, Roni Stern [PI], **Arnon Sturm** [PI], Searching for Class Models, EMMSAD 2021, Lecture Notes in Business Information Processing, vol 421. Springer, 277-292.
35. * Maxim Bragilovski, Yifat Makias, Moran Shamshila, Roni Stern [PI], Arnon Sturm [PI], Model-Based Knowledge Searching. ER 2021: 242-256
36. * Maxim Bragilovski, Fabiano Dalpiaz [PI], Arnon Sturm [PI], Guided Derivation of Conceptual Models from User Stories: A Controlled Experiment. REFSQ 2022: 131-147.
37. * Achiya Elyasaf [PI], **Arnon Sturm** [PI] (2022) Modeling Context-aware Systems: A Conceptualized Framework. MODELSWARD 2022: 26-35
38. *Azzam Maraee[PI], **Arnon Sturm**[PI] (2022) Towards Simplification of ME-Maps, accepted for EMMSAD@CAISE2022.

Book Chapters

1. **Arnon Sturm**[PI] and Onn Shehory[PI] (2004), A Comparative Evaluation of Agent-Oriented Methodologies, in: Federico Bergenti, Marie-Pierre Gleizes, Franco Zambonelli (editors): Methodologies and Software Engineering for Agent Systems, Kluwer Academics Publishers Group, 127-150.
   (number of citations: ISI = , GS=35)
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8. **Arnon Sturm**[PI], Onn Shehory[PI] (2014) The Landscape of Agent-Oriented Methodologies, in Agent-Oriented Software Engineering: Reflections on Architectures, Methodologies, Languages, and Frameworks, Springer
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9. **Arnon Sturm**[PI], Onn Shehory[PI] (2014) Agent-Oriented Software Engineering – Revisiting the State-of-the-Art, in Agent-Oriented Software Engineering: Reflections on Architectures, Methodologies, Languages, and Frameworks, Springer
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(d) Refereed articles and refereed letters in scientific journals - running numbers

1. Iris Reinhartz-Berger[PI] and **Arnon Sturm**[PI] (2008), Enhancing UML Models: A Domain Analysis Approach, Journal of Database Management, Vol. 19, No. 1, 74-94.
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2. Dov Dori[PI], Roman Feldman[S], **Arnon Sturm**[PI] (2008), An Object-Process Based Data Warehouse Construction Method, Information Systems, Vol. 33, No. 6, 567-593. (ISI=9, GS=28; IF=2.77; 40/146; Q2)
3. Michael Elhadad[PI], Mira Balaban[PI], and **Arnon Sturm**[PI] (2008), Effective Business Process Outsourcing: The Prosero Approach, International Journal of Interoperability in Business Information Systems, Vol. 6, 8-31. (ISI=NA, GS=17; IF=NA; NA; NA)
4. **Arnon Sturm**[PI], Meirav Taieb-Maimom[PI], Dina Goren-Bar[PI], Quantitative-Based Comparison of MaSE and OPM/MAS Design Results, International Journal of Software Engineering and Knowledge Engineering, Vol. 18, No.7, 933-963. (ISI=2, GS=5; IF=0.299; 104/106; Q4)
5. **Arnon Sturm**[PI], Dov Dori[PI], and Onn Shehory[PI] (2008), The Application-Based Domain Analysis and Its Object-Process Methodology Implementation, International Journal of Software Engineering and Knowledge Engineering. Vol. 18, No. 8, 1115-1142. (ISI=2, GS=15; IF=0.299; 104/106; Q4)
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9. Mira Balaban[PI], Azzam Maraee[S], and **Arnon Sturm**[PI] (2010), Management of Correctness Problems in UML Class Diagrams Towards a Pattern-Based Approach. International Journal of Information System Modeling and Design, Vol. 1, No. 4, 24-47. (ISI=, GS=23; IF=NA; NA; NA)
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11. Azzam Maraee[S], Mira Balaban[PI], Arnon Sturm[PI], Adiel Ashrov[S] (2011), Model Correctness Patterns as an Educational Instrument, Electronic Communications of the EASST, Vol. 52. (ISI=, GS=1; IF=NA; NA; NA)
12. **Arnon Sturm**[PI] **(**2012**)**, Supporting business process analysis via data warehousing, Journal of Software: Maintenance and Evolution, Special Issue: Business Process Modeling, Development and Support, Vol. 24, No.3, 303-319. (ISI=3, GS=7; IF=1.03; 74/106; Q3)
13. Tal Svoray[PI], Evgenia Michailov[S], Avraham Cohen[S], Lior Rockah[PI], and **Arnon Sturm**[PI] (2012), Predicting gully initiation: Comparing data mining technique, analytical hierarchy process and the topographic threshold, Earth Surface Processes and Landforms, Vol. 37, 607–619. (ISI=19, GS=30; IF=3.697; 22/188; Q1)
14. Jenny Abramov[S], Omer Anson[S], Michal Dahan[S], Peretz Shoval[PI], and **Arnon Sturm**[PI] (2012), A Methodology for Integrating Access Control Policies within Database Development. Computers & Security, Vol. 31, No. 3, 299-314. (ISI=6, GS=10; IF=2.849; 37/146; Q2)
15. Jenny Abramov[S], Peretz Shoval[PI], and **Arnon Sturm**[PI] (2012), Evaluation of the Pattern-based Approach for Secure Development (PbSD): a Controlled Experiment.

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17. Michal Dahan[S], Peretz Shoval[PI], **Arnon Sturm**[PI] (2014), Comparing the impact of the OO-DFD and the Use Case methods for modeling functional requirements on comprehension and quality of models: a controlled experiment, Requirements Engineering Vol. 19, No.1, 27-43. (ISI=2, GS=11; IF=2.381; 24/106; Q1)
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19. Mira Balaban[PI], Azzam Maraee[PD], **Arnon Sturm**[PI] (2014), A Pattern-Based Approach for Improving Model Quality, Journal of Software and Systems Modeling, Vol. 14, No. 4, 1527-1555. (ISI=5, GS=20; IF=1.654; 39/106; Q2)
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21. Davide Calvaresi[S], Daniel Cesarini[S], Paolo Sernani[S], Mauro Marinoni[S], Aldo Franco Dragoni[PI], **Arnon Sturm**[PI] (2016), Exploring the ambient assisted living domain: a systematic review, Journal of Ambient Intelligence and Humanized Computing, Vol. 8, No. 2, 239-257. (ISI=17, GS=59; IF=1.588; 78/132; Q3)
22. **Arnon Sturm**[PI], Daniel Gross[PI], Jian Wang[PI], Eric Yu[PI], Means-Ends based Know-how Mapping, Journal of Knowledge Management, Vol. 21, No. 2, 454-473. (ISI=1, GS=4; IF=2.053; 19/88; Q1)
23. Jumana Nassour-Kassis[S], Michael Elhadad[PI], **Arnon Sturm**[PI] ,Eric Yu[PI] (2019) Evaluating the Comprehension of ME-Maps, Journal of Software and Systems Modeling Vol. 18, No. 3, 1885-1903.
24. *Noa Roy-Hubara[S], **Arnon Sturm**[PI] (2019) Design Methods for the New Database Era: A Systematic Literature Review, Journal of Software and Systems Modeling, Vol. 18, No. 2,297-312.
25. *Azzam Maraee[PI], **Arnon Sturm**[PI] (2021) Imperative versus declarative constraint specification languages: a controlled experiment, Journal of Software and Systems Modeling, 20, 27-48.
26. *Azzam Maraee[PI], Eliran Nachmani[S], **Arnon Sturm**[PI] (2020) Constraints Specification Via Tool Support: A Controlled Experiment, Journal of Object Technology.
27. *Fabiano Dalpiaz[PI], Patrizia Gieske[S], **Arnon Sturm**[PI] (2021) On Deriving Conceptual Models from User Requirements: An Empirical Study, Information & Software Technology.
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30. *Achiya Elyasaf [PI], **Arnon Sturm** [PI] (2022), A Framework for Analyzing Modeling Languages for Context-Aware Systems, SN Computer Science.
31. *Achiya Elyasaf [PI], Nicolás Cardoso [PI], **Arnon Sturm** [PI] (2022), A Framework for Analyzing Context-oriented Programming Languages, Journal of Systems and Software, 198, 2023.

• Lectures and Presentations at Meetings and Invited Seminars not Followed by Published Proceedings

(a) Invited plenary lectures at conferences/meetings

NONE

(b) Presentation of papers at conferences/meetings (oral or poster)

1. Dov Dori and **Arnon Sturm** (1998), OPCAT-Object-Process CASE Tool - an Integrated System Engineering Environment (ISEE), OOPSLA'98-Object-Oriented Programming, Systems, Languages and Applications, Vancouver, BC, Canada, 18-22 October 1998.
2. Federico Bergenti, Onn Shehory and **Arnon Sturm** (2003), Agent Oriented Software Engineering Methodologies, European Agent Systems Summer School, Barcelona, Spain.
3. Onn Shehory and **Arnon Sturm** (2003), Tutorial on Methodologies for Agent-Oriented Software Engineering, AAMAS'03, Melbourne, Australia.
4. **Arnon Sturm** (2004), Multiagent Systems Engineering, AgentLink AOSE TFG1, Rome Italy, July 2004.
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8. Iris Reinhartz Berger, **Arnon Sturm**, and Yair Wand (2005), Domain Engineering - Using Domain Concepts to Guide Software Design, ER 2005, Klagenfurt, Austria, October 2005.
9. Lin Padgham, Onn Shehory, Leon Sterling, and **Arnon Sturm** (2005), Methodologies for Agent-Oriented Software Engineering, European Agent Systems Summer School, Utrecht, The Netherlands, July 2005.
10. Onn Shehory and **Arnon Sturm** (2006), Methodologies for Agent-Oriented Software Engineering, European Agent Systems Summer School, Annecy, France, July 2006.
11. Onn Shehory, **Arnon Sturm**, Selma Azaiez, and Marc-Philippe Huget (2007), Developing Multiagent Systems: Methods and Techniques, AAMAS 2007 - International Conference on Autonomous Agents and Multiagent Systems, Honolulu, Hawai'i, May 14-18, 2007.
12. Iris Reinhartz Berger, **Arnon Sturm**, and Yair Wand (2009), Introduction to Domain Engineering, International Workshop on Domain Engineering, DE@CAiSE09, Amsterdam, the Netherlands, June 8-12, 2009.
13. Iris Reinhartz Berger and **Arnon Sturm** (2010), Software Variability - Definitions, Classification, and Guidelines, Vancouver, BC, Canada, Novmeber 1st , 2010.
14. Jenny Abramov, Clint Feher, Peretz Shoval, **Arnon Sturm** (2011), Tool Support for Enforcing Security Policies on Databases, IBM Programming Languages and Development Environments Seminar, Haifa, Israel, November 21st, 2011.
15. Azzam Maraee, Mira Balaban and **Arnon Strum** (2011), Model Correctness Patterns as an Educational Instrument - An Experience Report, IBM Programming Languages and Development Environments Seminar, Haifa, Israel, November 21st, 2011.

16. **Arnon Sturm**, Challenges in Security in Design, Incorporating Security in Conceptual Modeling, International Workshop on Critical Issues in Conceptual Modeling, Brussels, Belgium, October 31st, 2011.
17. **Arnon Sturm,** Iris Reinhartz Berger (2012), Comprehensibility of UML-based Software Product Line Specifications – A Controlled Experiment, CSER 2012, Markham, Canada.
18. Azzam Maraee, Mira Balaban, **Arnon Sturm** (2012) Model Correctness Patterns - An Experience Report, CSER 2012, Markham, Canada.
19. Davide Calvaresi, **Arnon Sturm**, Eric Yu (2013), Reconciling System Design Options with Domain and Elicited Requirements – A Goal Modeling Approach, CSER 2013, Markham, Canada.
20. Sadra Abrishamkar, **Arnon Sturm**, Eric Yu (2013) Know-how Mapping: An Evaluation, CSER 2013, Markham, Canada.
21. **Arnon Sturm**, Daniel Gross, Eric Yu (2013) Adapting Goal-Oriented Requirements Engineering Techniques for Know-how Mapping, CSER 2013, Markham, Canada.
22. Jenny Abramov, Omer Anson, Michal Dahan, Peretz Shoval, **Arnon Sturm** (2012) Methodology for Integrating Security Policies within the Software Development Process CSER 2012, Markham, Canada.
23. Jumana Nassour-Kassis, M Elhadad, A Sturm, Building Conceptual Maps from Scientific Articles, Israeli Seminar on Computational Linguistics, 2015.
24. **Arnon Sturm**, Eric Yu, Know-how Mapping with ME-map, CAiSE, Stockholm, Sweden, 2015.
25. **Arnon Sturm**, Azzam Maraee, Eric Yu, Know-How Conceptualization & Analysis, ER, Valencia, Spain, 2017.
26. *Noa Roy-Hubara, **Arnon Sturm**, Model-based Handling of Polyglot Database Applications, MODELS, Montreal, Canada, 2020.
27. Achiya Elyasaf, Arnon Sturm, On the Centrality of Context, EMMSAD 2021.

• **Research Grants**

2005-2006: The Israeli Higher Education Planning and Budgeting Committee (VATAT) – Mira Balaban[PI] and **Arnon Sturm[PI]**, Developing eCourse for Object-Oriented Analysis and Design. ~31.5K$

2006-2008:Deutche Telekom – Mira Balaban[PI], Ronen Brafman[PI], Michael Codish[PI], Michael Elhadad[PI], Eyal Shimoni[PI] and **Arnon Sturm[PI]**, Orchestration of Business Processes in a Service Oriented Architecture. ~2M$

2008-2009:Deutche Telekom – Lior Rokach[PI], Amnon Meisles[PI], Yuval Elovici[PI], and **Arnon Sturm[PI]**, CASOU - Context Aware Service Offering and Usage, ~260K$

2009-2010:Deutche Telekom – Ehud Gudes[PI], Bracha Shapira[PI], Peretz Shoval[PI] and **Arnon Sturm[PI]**, Emerging Database Security Solutions, ~1M$.

2011-2012: Deutche Telekom – Ehud Gudes[PI], Peretz Shoval[PI], and **Arnon Sturm[PI]**, Model Driven Security Development, ~565K$.

2015-2018: ISF - Recruiting Goal-Oriented Requirement Engineering for Knowledge Mapping – **Arnon Sturm[PI]**~130K$

2015-2016: IBM – Cyber-Watson – Michael Elhadad[PI], Rami Puzis[PI], Lior Rokach[PI], **Arnon Sturm[PI]**, ~200K$

2020-2021: Data Science Center @ BGU - **Arnon Sturm[PI]**,Roni Stern[PI], ~26K$

2022-2023: Data Science Center @ BGU - **Arnon Sturm[PI]**,Roni Stern[PI], ~26K$

• Synopsis of research, including reference to publications and grants in above lists

Abstraction in Software Development and Knowledge Management

My research lies in the area of abstraction in software development and knowledge management. Abstraction in a sense is a conceptual process by which general rules and concepts are derived from the usage and classification of specific cases. The outcomes from such a process usually results in the simplification of the means of performing various tasks. Within the scope of software development, I have looked (and still seek) for easing the development for the various stakeholders engaged in that process. Those stakeholders include programmers, software designers, business process analysts, and even novice end users.

In the early stages of my research, I have started enhancing and formalizing the Object-Process Methodology (OPM) (c.Conferences.1-3,c.Conferences.8-9). This includes the generation of database schema from an OPM-based conceptual system model (my M.Sc. thesis), the modeling of events (c.Workshop.1), and the generation of data warehouse schemata for conceptual models (c.Conferences.12-13, d.3). I further examined specific domains in which OPM could be useful (d.5). One of the such domains is the area of agent-based systems. Analyzing the limitation of existing works on agent-oriented software engineering in general, and agent-oriented modeling methods in particular (c.Workshop.2, c.Conferences.4), I have developed a new modeling language for specifying multi-agent systems (c.Conferences.7, c.Workshop.3, c.Workshop.7). The language that I have developed is based on domain analysis principles. Generalizing that work, I came up with an OPM-based framework for developing domain specific applications (c.Conferences.14).

Based on the experience I accumulated in the area of domain analysis, I further generalized the approach and formed the Application-Based Domain Modeling (ADOM) approach, which is language independent. This approach enables modeling domains as if they were regular applications, reducing the efforts required for verifying domain-specific application models vis-a-vis their domain models. The ADOM approach consists of three layers: language, domain, and application. The language layer includes metamodels of modeling languages. In the domain layer, the domain elements and relations are modeled using regular software and application engineering concepts, as defined in the language layer. Finally, in the application layer, the required applications are modeled using the knowledge and constraints presented in the domain and language layers. To enable verification of application models in a specific domain, the application elements are classified according to the domain concepts. I applied this approach to various languages including UML (c.Conferences.10-11, d.1, d.6) and also utilized that approach in the area business processes (c.Workshops.4-5, d.3, d.7, d.10), in which reference models belong to the domain layer, while specific business process models belong to the application layer. The ADOM approach has been applied in various projects such as the project “Orchestration of Business Processes in a Service Oriented Architecture” and the projects of “Emerging Database Security Solutions” and “Model Driven Security Development”. It was applied to various tasks such as programming (c.Workshop.13, d.20) and development of secure database (c.Workshop.15-16, d.14-15).

My activities and understanding in the domains of agent-oriented software engineering and software product lines and domain engineering have recently been summarized in two related books (b.2, b.1)

Following the challenges arising in the area of software product lines and domain engineering I started to examine the issue of variability management and its mechanisms.

This include checking the means for specifying variability (c.Workshop.17, c.Workshop.19, d.18) and understanding the ontological structure of variability (c.Conferences.17, d.16). Lately, I have been looking at the area of multi-level modeling in order to examine if such an approach could facilitate and enhance variability specification.

Other research directions I am interested in are business process management, in which business process improvement is of my main interest and the development of programming languages to be used by non-programmers. In the area of business process improvements, I am looking at the use of reference models which serve as knowledge base for specifying business processes and at data mining techniques to be used for analyzing business process performance and for dictating business rules. Furthermore, I have recently been looking for various dimensions according to which business processes should be designed. These dimensions include the temporal, recurrence, and use (c.Conferences.19-20). Within the area of end-user development, following my research experience that is related to generalization/abstraction, I am now examining the possibility of introducing programming environments for non-programmers (c.Conferences.18).

A major direction that I am interested in these days is the notion of increasing knowledge accessibility and use. In particular, I am focusing on technical knowledge, which we refer as know-how that is defined as the knowledge of how to achieve objectives effectively and efficiently. Such knowledge is difficult to grasp and handles by both researchers and practitioners, since it is of a large volume, complex, continuously evolving, and sometimes inaccessible. From a scientific viewpoint, researchers would like to explore the relevant knowledge be able to analyze and compare it with their thought to better explicate their contribution, and to allow others to refer to their contribution. From an industry viewpoint, practitioners would like to have an easy way to explore various solutions that might address the problems they aim at addressing and be able to analyze the alternatives. To address these problems, we believe that know-how mapping approach would be an appropriate alternative. Examining various knowledge mapping techniques, we found that although providing solutions for different facet of the problem they are limited in providing a comprehensive know-how mapping framework. Thus, I am exploring the following research questions: (1) What are the basic core units contributing for a know-how mapping framework? (2) What is the required functionality from a know-how mapping framework? (3) What guidelines should be provided for the stakeholders of a know-how mapping framework? and (4) How to evaluate the effectiveness and usefulness of a know-how mapping framework? (c.Workshop.20-23, c.Workshop.25, d. 22)

- Teaching Statement

A reflection on the central ideas behind your teaching goals and methods. It should describe the experience you have gained through teaching, and explain your ideology, motivations, teaching practices and methods. Address the following:
a) Goals for student learning (could be varied and dependent on the type of course).
b) Methods and strategies to achieve those goals.
c) Assessing and evaluating student engagement and comprehension.
d) Future directions and improvements.