UNIVERSITAS PENDIDIKAN INDONESIA
FACULTY OF MATHEMATICS AND NATURAL SCIENCES EDUCATION
DEPARTMENT OF PHYSICS EDUCATION
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STAFF HANDBOOK

Name	Dr. Achmad Samsudin		
Position	Physics Education		
Academic career	*Initial academic appointment*	*Institution* ***Assistant Professor, Department of Physics Education of Universitas Pendidikan Indonesia***	*Year* ***2012-Now***
	Habilitation [German post-doctoral qualification] (Subject)	*Institution* -	*Year* -
	Doctorate (Subject)	*Institution* ***Universitas Pendidikan Indonesia***	*Year* ***2012-2016***
	Master degree (subject)	*Institution* ***Universitas Pendidikan Indonesia***	*Year* ***2006-2008***
	Undergraduate degree (subject)	*Institution* ***Universitas Negeri Semarang***	*Year* ***2001-2005***
Employment	*Position*	*Employer*	*Year*
	The Head of Physics Education Program	***Dean***	***2019-2023***
	Lecturer	***Dean***	***2008-Now***

Research and development projects over the last 5 years

Name of project or research focus
Period and any other information
Partners, if applicable
Amount of financing

No	Year	Title of Research Project	Financing	
			Sources	Amount (Million Rp)
1.	2021-2022	Pengembangan Model Pembelajaran ICARE dengan Multimedia Based Integrated Instruction dalam Pembelajaran Fisika untuk Membangun Keterampilan Abad 21 Siswa SMA	DRPM DIKTI	200
2.	2021-2022	Pengembangan dan Implementasi Model Pembelajaran POEAW-Assisted Reputational Texts untuk Meningkatkan Level of Understanding, Mental Model and Conceptual Change Peserta Didik SMP dan SMA/SMK di Jawa Tengah	DRPM DIKTI	350

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	3.	2020-2022	Pengembangan Model Pembelajaran ICARE dengan Multimedia Based Integrated Instruction dalam Pembelajaran Fisika untuk Membangun Keterampilan Abad 21 Siswa SMA	DRPM DIKTI	200
	4.	2020-2021	PENGEMBANGAN DAN IMPLEMENTASI BAHAN AJAR KOMPREHENSIF MELALUI MODEL PEMBELAJARAN KOOPERATIF TGT DENGAN STRATEGI KONFLIK KOGNITIF UNTUK MEREDUKSI MISKONSEPSI KALOR BAGI SISWA-SISWI DI SMP SEKABUPATEN LAMONGAN	DRPM DIKTI	200
	5.	2020-2021	PENGEMBANGAN REAL AND VIRTUAL-CONCEPTUAL CHANGE LABORATORY (R-VCCLab) UNTUK MENGUBAH KONSEPSI SISWA SMA TERKAIT KONSEP-KONSEP FISIKA	DRPM DIKTI	150
	6.	2019-2020	PENGEMBANGAN REAL AND VIRTUAL-CONCEPTUAL CHANGE LABORATORY (R-VCCLab) UNTUK MENGUBAH KONSEPSI SISWA SMA TERKAIT KONSEP-KONSEP FISIKA	DRPM DIKTI	150
	7.	2019-2020	PENGEMBANGAN COMPUTER BASED TEXT (CBText) UNTUK PENGAJARAN REMEDIAL FISIKA BERORIENTASI KONSTRUKSI DAN REKONSTRUKSI KONSEPSI DAN MEMPERBAIKI MODEL MENTAL SISWA SMA	Ristekdikti	400
	8.	2018-2019	Penerapan Model Pembelajaran POEAW Berbantuan Teks Pengubahan Konsepsi untuk Meningkatkan Level Pemahaman Konsep dan Pengubahan Konsepsi Siswa SMP/SMA	DRPM DIKTI	150

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	9.	2018-2019	PENGEMBANGAN COMPUTER BASED TEXT (CBText) UNTUK PENGAJARAN REMEDIAL FISIKA BERORIENTASI KONSTRUKSI DAN REKONSTRUKSI KONSEPSI DAN MEMPERBAIKI MODEL MENTAL SISWA SMA	Ristekdikti	150
	10.	2018-2019	PENGEMBANGAN PERANGKAT PEMBELAJARAN BERBASIS INKUIRI UNTUK MENINGKATKAN KETERAMPILAN BERPIKIR KRITIS MAHASISWA	DRPM DIKTI	50
	11.	2018-2019	Pelatihan Pengembangan dan Penggunaan Multimedia Based Integrated Instruction dalam Pembelajaran Sains untuk Mengembangkan Keterampilan Abad 21 Siswa SMP bagi Guru-guru IPA Wilayah Kabupaten Bandung Barat	SPs UPI	150
	12.	2018-2019	PENGEMBANGAN DUAL CONDITIONED LEARNING MODEL-UTILIZING MULTIMODE TEACHING (DCLM-UMT) UNTUK MENGOPTIMALKAN PEMAHAMAN KONSEP DASAR FISIKA CALON GURU	DRPM DIKTI	36,5
	13.	2018-2019	Optimasi Pengembangan dan Implementasi MBI2 dalam Pembelajaran Sains melalui CAI untuk Mengembangkan Keterampilan Abad 21 Siswa	DRPM DIKTI	40
	14.	2017-2018	Pengembangan Buku Guru untuk Panduan Penyelenggaraan Pembelajaran Fisika SMA Bermuatan Nilai Religi, Membekalkan Literasi Saintifik dan Melatihkan Keterampilan Abad 21	SPs UPI	100

	15.	2017-2018	Optimasi Pengembangan dan Implementasi MBI2 dalam Pembelajaran Sains melalui CAI untuk Mengembangkan Keterampilan Abad 21 Siswa	DRPM DIKTI	100
	16.	2017-2018	Pengembangan Multimodus Teaching Berbasis Cognitive Conflict dalam Pembelajaran Berorientasi Pengubahan Konseptual untuk Mengoptimalkan Pemahaman Konsep Dasar Fisika Siswa SMA di Kota Bandung	DRPM DIKTI	70

Industry collaborations over the last 5 years

Project title
Partners

Patents and proprietary rights

No.	*Title*	*Type*	*Year*
1	*Perangkat pembelajaran materi Usaha dan Energi untuk siswa SMA kelas X menggunakan pembelajaran Think Pair Share berbantuan PDEODE*E*	*Proprietary rights*	*2017*
2	*Tes Diagnostik Conceptual Survey On Impuls And Momentum (Csim)*	*Proprietary rights*	*2018*
3	*Desain Pengembangan Pembelajaran Sains (Science Didactical Book): Panduan Praktis Pembelajaran Sains Berbasis Proses Bagi Guru TK/PAUD*	*Proprietary rights*	*2018*
4	*Perangkat Pembelajaran Topik Usaha Dan Energi Untuk Siswa SMA Kelas X Dengan Menggunakan Strategi PPOEW Berbantuan Simulasi Komputer*	*Proprietary rights*	*2018*
5	*Perangkat Pembelajaran Materi Struktur Bumi Untuk Peserta Didik SMP Kelas VII/ VIII Dengan Menggunakan MBI2*	*Proprietary rights*	*2018*
6	*Eleventh-grade Student's Conceptions About Temperature And Heat*	*Proprietary rights*	*2017*
7	*Measuring Critical Thinking Skills Of 11th Grade Students On Temperature And Heat*	*Proprietary rights*	*2019*
8	*Teks Pengubahan Konsepsi (Tpk) Pada Model Poeaw Materi Momentum Dan Impuls*	*Proprietary rights*	*2019*

Important publications over the last 5 years

Selected recent publications from a total of approx.
(give total number): 26 Publication (Scopus Indexed)
Author(s)
Title
Any other information
Publisher, place of publication, date of publication or name of periodical, volume, issue, page numbers

No	Publication	Author (s)

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	1.	Assessing two-dimensional collisions second-years students using PhET simulations on momentum and impulse concept. Journal of Physics: Conference Series, 2021, 1869(1), 012204	Adimayuda, R., Sari, L., Ismail, A., ...Gumilar, S., Samsudin, A.
	2.	Identification of critical thinking: Suku (supik and kulub) on electricity material in Jambi Province. Journal of Physics: Conference Series, 2021, 1806(1), 012020	Hendriyani, D., Siahaan, P., Samsudin, A.
	3.	The development of virtual conceptual change laboratory (VCCLab) for conception reconstruction through lab virtual activity. Journal of Physics: Conference Series, 2021, 1806(1), 012015	Putri, K.L., Suhandi, A., Samsudin, A., Surtiana, Y.
	4.	Rural and urban students' attitudes toward physics: A comparative study using Rasch analysis. Journal of Physics: Conference Series, 2021, 1806(1), 012009	Ringo, S.S., Kuswanto, K., Samsudin, A., Setiawan, A.
	5.	Assessing graph interpretation of high school students: An examination by students' gender. Journal of Physics: Conference Series, 2021, 1806(1), 012011	Riani, V.R., Sa'Diyah, L.H., Purwanto, M.G., Ramalis, T.R., Samsudin, A.
	6.	Level of sustainability awareness: Where are the students' positions? Journal of Physics: Conference Series, 2021, 1806(1), 012135	Ridwan, I.M., Kaniawati, I., Suhandi, A., Samsudin, A., Rizal, R.
	7.	Promoting the model introducing, connecting, applying reflecting, and extending using Rasch analysis (ICARE-R) to improve students' critical thinking skills on physics concepts. Journal of Physics: Conference Series, 2021, 1806(1), 012032	Sa'Diyah, L.H., Siahaan, P., Samsudin, A., ...Riani, V.R., Fatima, W.O.
	8.	Measuring students' conceptions of light waves: A survey in Central Java. IOP Conference Series: Earth and Environmental Science, 2021, 1796(1), 012124	Samsudin, A., Aminudin, A.H., Fratiwi, N.J., Adimayuda, R., Faizin, M.N.
	9.	Reducing the students' misconceptions on the theory of heat through cognitive conflict instruction (CCI). AIP Conference Proceedings, 2021, 2330, 050001	Haryono, H.E., Aini, K.N., Samsudin, A., Siahaan, P.
	10.	(ISO) Media for improving learning quality using analysis RapidMiner. AIP Conference Proceedings, 2021, 2320, 020040	Wibowo, F.C., Sanjaya, L.A., Susanti, D., ...Widiatmoko, S., Samsudin, A.
	11.	Crucial problems in arranged the lesson plan of vocational teacher. International Journal of Evaluation and Research in Education, 2021, 10(1), pp. 345–354	Nurtanto, M., Kholifah, N., Masek, A., Sudira, P., Samsudin, A.
	12.	Effectiveness of Virtual Physics Laboratory (VPL) with Dry Cell Microscopic Simulation (DCMS) to Promote of Inquiry Activity about the Battery. Journal of Physics: Conference Series, 2021, 1772(1), 012006	Wibowo, F.C., Setiawan, A., Darman, D.R., ...Adityo, F.P., Niki Dian Permana, P.
	13.	Development of a multitier open-ended work and energy instrument (MOWEI) using Rasch analysis to identify students' misconceptions. Cypriot Journal of Educational Sciences, 2021, 16(1), pp. 16–31	Samsudin, A., Cahyani, P.B., Purwanto,, ...Aminudin, A.H., Coştu, B.

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	14.	Reconstructing Students' Misconceptions on Work and Energy through the PDEODE*E Tasks with Think-Pair-Share. Journal of Turkish Science Education, 2021, 18(1), pp. 118–144	Samsudin, A., Afif, N.F., Nugraha, M.G., ...Linuwih, S., Costu, B.
	15.	Measuring Critical Thinking based Multimedia on Buoyant Force Concept: A Preliminary Design. Journal of Physics: Conference Series, 2020, 1655(1), 012112	Mahbubah, K., Habibulloh, M., Hermita, N., Samsudin, A.
	16.	Vocational Teachers' Perceptions and Perspectives in the Implementation of STEM Learning in the 21st Century. TEM Journal, 2020, 9(4), pp. 1665–1680	Muhammad, N., Sudira, P., Kholifah, N., Samsudin, A., Warju, W.
	17.	Changing students' conceptions of Newton's second law through express-refute-investigate-clarify (ERIC) text. Universal Journal of Educational Research, 2020, 8(6), pp. 2701–2709	Fratiwi, N.J., Samsudin, A., Ramalis, T.R., Costu, B.
	18.	The development of critical thinking skills and collaborative skill profiles aided by multimedia-based integrated instruction on light refraction material. Universal Journal of Educational Research, 2020, 8(6), pp. 2599–2613	Siahaan, P., Setiawan, Y.C., Fratiwi, N.J., Samsudin, A., Suhendi, E.
	19.	Fostering high school students' misconception about boiling concept using conceptual change laboratory (cCLAb) activity. Universal Journal of Educational Research, 2020, 8(6), pp. 2211–2217	Suhandi, A., Surtiana, Y., Husnah, I., ...Samsudin, A., Costu, B.
	20.	Using CCOText assisted by dynamic model and analogy to fostering students' misconception about the concept of heat conduction. Journal of Physics: Conference Series, 2020, 1521(2), 022044	Suhandi, A., Samsudin, A., Suhendi, E., Basori, H.
	21.	Improving the mental model of high school students related to the concept of global warming through the implementation of the context based learning (CBL) model combined with the CM2RA strategy. Journal of Physics: Conference Series, 2020, 1521(2), 022008	Ulum, A.S., Basori, H., Suhandi, A., Samsudin, A.
	22.	The preliminary study of the application of the conceptual change laboratory (CC-Lab) for overcoming high school students misconception related to the concept of floating, drifting and sinking. Journal of Physics: Conference Series, 2020, 1521(2), 022018	Surtiana, Y., Suhandi, A., Samsudin, A., Siahaan, P., Setiawan, W.
	23.	Simulation and optimization of P-N junction gaas solar cell efficiency with using Sio2 antireflection coating coupled with algaas window layer. International Journal of Scientific and Technology Research, 2020, 9(4), pp. 3761–3764	Suhandi, A., Tayubi, Y.R., Samsudin, A.
	24.	Developing memori on Newton's laws: For identifying students' mental models. European Journal of Educational Research, 2020, 9(2), pp. 699–708	Fratiwi, N.J., Samsudin, A., Ramalis, T.R., ...Rasmitadila,, Ravanis, K.
	25.	Utilizing Rasch Model to Analyze A Gender Gap in Students' Cognitive Ability on Simple Harmonic Motion. Journal of Physics: Conference Series, 2020, 1467(1), 012054	Ringo, S.S., Samsudin, A., Ramalis, T.R.

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	26.	Identification of Creative Thinking Ability of Malay Ethnic Students in Archimedes Law with Rasch Analysis Model (RAM): A Case Study. Journal of Physics: Conference Series, 2020, 1467(1), 012050	Andriani, N., Suhendi, E., Samsudin, A., Ramalis, T.R.

Activities in specialist bodies over the last 5 years

Organization	Role	Periods
Physical Society of Indonesia	Member	2015 - Now

*

Membership without a specific role need not be mentioned